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C64

The A64 Package v3.1 FULL VERSION (Is a comprehensive emulator/utility package to assist Commodore 64 users in upgrading to the Amiga. By Cliff Dugan, Questonics)
The A64 Package v3.01d DEMO VERSION (Is a comprehensive emulator/utility package to assist Commodore 64 users in upgrading to the Amiga. By Cliff Dugan, Questonics)
Run C64 v1.21 Communication program for Amiga & C64. Its not a modem program or anything like that, but a network system which enables you to send C64 file from the Amiga over to the C64 & start them)
TransNib v3.11 (By Matt Francis - Amiga front-end & TransNib64 2 (C64 Front-end).
D64 to Zip Code (This utility will convert between D64/ZIPCODE, .D64 etc.
AXF 64 (This is an updated C64 emultor which claims to be faster than frodo. Requires os2 or os3.
1541 (is a command line cli-based program which reads a 1541 disk and produces a disk image. a disk image is simply a block-by-block copy of the disk, stored as a file.
ARC64 Archhive Processor v1.2 (Archive to list and extract files from P00, T64, Arkive, D64, Zipcode and Lynx archives. Capable to convert between D64 and Zipcode.
D64 (Is a program to convert C64 programs from datasette to Amiga file format for use with the A64Package etc).
Frodo v1.5 (frodo is a multitasking freeware c64 emulator for the Amiga. OS2.1 and a 68020 (or better) and required, as well as copys of the original c64 roms.
UND64 Archive File Processor (This program is designed to extract, list or test files from .d64 disk images, .t64 tape images, and .p00 program images from PeeCee C64 emulators.
Magic 64 v1.1 (This iam sure you do'nt want to spend thousands on emulating a c64 so this emulator can help shareware with a registation fee of only $25
Make P000 (Since Magic 64 came along i wanted to run it. Unfortunately i extracted all my t64 and d64 files since Frodo doesnt support them heres a little Arexx script for turning c64 binaries into P00 files which Magic 64 does understand.
Over5 0.711 By Daniel Kahlin (The sucessor to OverFour is an Amiga to/from C64 transfer program package. Supports serial transfer at 38400 buad 8n2 using only a RS-232 level converter (Like the Vic-1011a). Auther email [tlr@stacken.kth.se].
C64 Graphics Format Converter Package v1.2 (converts ppm, fli and koala graphics files from c64 to amiga of amiga to c64. requires Amos for the Amiga.
Copy 1581F File Reader (By Kerry Gray - This program will read and copy the contents of a disk written with CBM 1581 drive)
FS1541 v0.5 (Is a full-blown AmigaDOS file system, which processes the CBM 1541 disk format. The CBM 1541 floppy drive has been the standard disk drive for the C64 computer serie).
UNT64 (By Alan Ingleby - is a very small program that will convert the c64s .t64 tape images into a format that allows them to be used in the A64 package on the Amiga.
Easy 1541 v1.1.1 (Is designed to provide EASY access to the Commodore 1541 drive (and compatibles) to manage old 5.25" disks formatted using standard CBM DOS 2.6 filesystem.
Sim Disk (By Eelko de Vos - First there was und64 now there is Sim Disk. This little program will be transformed into a library which can be used as a 1541 diskdrive simulator.
SYS v1.0 (This program is not an emulator but was written by a former c64 user who wanted a reset for the Amiga).

Apple II

Apple 2000 v1.3 (By Kevin Kralian) is the premier Apple][Emulator for the Amiga. At its current level it accuately emulates a 64k Apple][+ with sound. Apple II-Roms are needed.
AppleM Emulator - Demo version (This programs emulates an Apple][+ it supports all of ther display modes of an Apppl][+ - Primary & Secondary pages of text, Hires, lore, Mixed:Sound,Joystick, language card.
LoadRAM (Load Apple2000 programs into AppleM

Apple Macintosh

AmigaAGA-ENV (is an 8 bit refresh code rewritten, Now upto 1.8 times faster then the refresh in ShapeShifter 3.1 (and 25 times faster than 3.0).
Ami Mac Tools v2.0b1 (This is an Amiga version of Mac Tools 2.0b1, Only contains the binaries).
APC Names v1.2a (is a freeware renaming utility which is useful for people who use PC disks to interchange files bewteen Amiga (with CrossDOS) and Macintosh.
CrossMAC Demo v1.0 (This is a demo version and as such it is read only version of CrossMAC).
CyberWB-End (Is an external Video driver for the Macintosh emulator ShapeShifter).
DoubleR (By Marius Groger is a simple mouse-handling enhancement for Shape Shifter).
New Icons for EMPLANT (Replaces the tired icons that come with Emplant).
EMPCD Device v1.3 (By Nicola Salmoria - This device allows the Emplant mac emulation to use a CD-ROM drive not connected to the Emplant SCSi Port).
EMPDIAG v1.0 (Hardware Diagnostics for Emplant).
Emp Icon 5 - Artware - (An excellent selection of replacement Icons for Emplant).
Emplant's e586DX Emulation software (Many updated features).
Fast ECS v1.2 (An updated ShapeShifter this will speed up screen refresh for most users).
Fast A-Max v2.[illegible] (Speeds up running the A-max [illegible] version 1 or 2. It reads [illegible] into a file [illegible] A-Max to read [illegible] from the ROM [illegible]
[illegible] v1.0 (Set of tools to [illegible] Mac [illegible] on a [illegible]
[illegible]
Mac [illegible]
[illegible] port for the [illegible]
ShapeShifter [illegible]
Run Prepare [illegible] of you who [illegible] "PrepareEmul" to work on expanded A1200s (Blizzard etc)., this is the solution.
Mac ROM Test v1.0 (By Thomas Kessler is for all users of ShapeShifter who want to verify their rom-image and who want to know the exact version and subversion).
MapRZ2 v1.1 (By Christoph Niedeggen - MapRZ2 The MMU is used to treat the 64k Retina memory window (RMW) and the virtual Retina memory (VRM) in a special way).
New Drivers (New [illegible] Drivers for Media [illegible]
Bring [illegible] to Front (This is for Emplant and Retina owners).
Retina Z2 Driver v1.1 (For ShapeShifter users version 3.2+ You can double your ram).
Shape Shifter v3.7 By Christian Bauer - is a multitasking shareware macintosh-II emulator for the Amiga and DraCo Computers. It allows you to run macintosh software concurrently to Amiga applications without Hardware add-ons or moifications. The best Mac emulator. Can run System7, support colour modes and runs even games like Rebel Assault.

[illegible]

[illegible] Card (to 80386SX)
[illegible]SLC/2 (to 80486SLC/50)
[illegible] (80286) Software-PC-emulator
[illegible]
[illegible] Power-Board (8088)
Transformer (8088)
Sidecar [illegible] 1987

Atari ST

Amtari
Chamaleon
Medusa

Schneider/Amstrad CPC

A-CPC
Ami-CPC
CPE Further Development not planned. The better alternative is A-CPC.
EmuCPC

MSX

AmiMSX
MSX-2 shareware emulator. Needs a 68020-CPU [illegible]
Amiga fMSX
AMMSX
MSX-1 emulator [illegible] with 68020 or better.

Sinclair ZX Spectrum

Spectrum v1.7 Needs a 68020
ZXAM v1.3 [illegible] Spectrum v1.7a
[illegible] v1.3 [illegible] compatible

Others

A4 V0.2A - =C16/116/+4 Emulator (The A4 emulates the commodore machine Plus4. Files can be loaded and saved to an Amiga directory or with a cable directly to an external floppy [illegible]
CD32-emulators They allow you to play many CD32-CDs on a Amiga 1200 & 4000 with CD-ROM-
Amoric Oric-Emulator. Kickstart 2.0 is needed and a [illegible] is recommended.
Dragon-Emu [illegible] development [illegible] email [illegible]
Sinclair [illegible]
VIC-20-[illegible]
The [illegible] for the [illegible] address at AltaVista [illegible] out yet.

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Con[illegible] loads more.

CD[illegible] 97
Con[illegible] from Speccy 96 [illegible] emulators, software [illegible] the new Sam Coupe [illegible] complete zx81 archive [illegible] games.

£19.99 each or £29.99 [illegible]

Samples from the Speccy 97 Games Library Archive



Programming + Tek

[illegible]298 - NORTHC V1.3 (AB)
...update on the public domain 'C' environment ...Amiga that I am aware of.

[illegible]523 - DICE C COMPILER (AB)
... Matthew Dillons full featured. powerful C ...ler and environment system.

[illegible]786 - PASCAL
... everything needed to program in Pascal. ... A68k 68000 assembler. Blink, Linking soft... and PCQ, a modest Pascal sub set compiler.a

[illegible]041 - DIGITAL BREAD BOARD
... GUI digital logic circuit simulator. Digital ...board currently supports 2 and 3 input etc

[illegible]056 - DEVELOPER
... the official Commodore developers kits for the ... Guide and Commodore Install utilities.

[illegible]060 - CIRCUIT BOARD DESIGN
... terrific routines for the electronic enthusiast. ... PCBtool, a circuit board design tool.

[illegible]209 - GNU C++ COMPILER (3) [HD]
... disks consists of the latest version of the GCC ...ment, compiler, driver, assembler, linker, header ... code generation of library calls.

[illegible]213 - PROGRAM LANGUAGES
... is a PD Amiga BASIC compiler which, in ...tion with A68K & Blink produces stand alone ...'s. run time shared libraries are required.

[illegible]227 - GAD TOOLS V2.2C
... Amiga shared runtime library which makes ... quicker / easier to build standard requesters into ... Designed with CBM's guidelines in mind.

[illegible]384 - HOW TO CODE IN C (AB)
... Debugging, Intuition and Graphic, Kodbibliotek, ... Tricks, Anropa AsmFranC, Dos Intuition, WB ...Make, GadToolsBox and Power Source.

[illegible]430 - N.D.U.K V37 (ABCD)
... of the Commodore Native Developer Update ... can be licensed for distribution. Includes the fd ...libraries, startups, C include files, and tools

[illegible]905 - MATHS FORMULA EDIT V2.1
... is a formula editor, which is used to inte... mathematical formulas into word processors or ... programs. It has an extensive amount of mathe... and physical symbols and many control codes ... fractions,roots, exponents.

[illegible]909 - REQCHANGE V3.6
... Intuition, ASL, ARP & REQ to use the Req ...questers instead. It also adds a couple of extra ... like an Assign Wedge, the possibility to send ... commands when a patched requester appears, & ... options to configure how the patches behave.

[illegible]919 - MOTOROLA CROSS ASSEMBLER'S 2
...ler's AS0,1,4,5,9,11

Utils & Popular

[illegible]362 - CHECKERS TOOLBOX
... Amiga diagnosis program. Runs self test on ... all the ports and even the disk drive! All your ... is tested and displayed in graphical informa... Every Amiga owner should have a copy! Find out ... wrong with your Amiga before going to the ... to get it fixed. It may save you a bob or two!

[illegible]405 - VIRTUAL UTILITIES
... 5 utils containing everything needed for any ... user to make virtual memory from their hard... The Amiga is fooled into thinking it has massive ... of RAM when really it only has a small ... mapped to a file on the harddrive.

[illegible]719 - TELETEXT V2.3
... Teletext (also know as Teletekst, Videotext, ... Skytext, Supertext etc.) on your Amiga. It is ... for any PAL Amiga (read @{ System require... link systems req } for more info, because it uses ...llel port to interface with the hardware. An ... switch is provided to easily switch between ...Text decoder and a printer.

[illegible]335 - LIBRARIES & DATATYPES
... a disk packed full of Amiga Workbench 3.0 ...es and Datatypes. There's 47 Libraries from A to ... libraries covered are right up to date and waiting to ...lled. The disk also have installation notes to aid ...ners. also files in the L and Devs/DosDrivers ... that can be copied or assigned.

[illegible]641 - SUPER KILLERS V10.0
... collection of virus killers like AntiCicloVir ... Virus Checker v6.43, VirusZ II v1.07, and VT ... Req the use of LHA which is in the c directory.

[illegible]839 - HD INSTALLER (AB)
... an A1200 machine and are having trouble with ... drive why not install it correctly.

[illegible]136 - DISKSALVE 2
... your hard drive with this. recommended.

[illegible]326 C: COMMANDS & LIBS
... and LIBS disk contains over 100 commands lie ... the C directory. Over 20 LIBRARY's are within ... directory. Use them for your disks. They can ... to spice the disk up in appearance and in usage.

[illegible]490 - MESSY SID II
...ded will read MS Dos disks, Convert any text ... on to an Amiga dos disk so that they can be ... into any standard Word processor. The program ... convert the text back to your IBM disks.

[illegible]611 - SNOOPDOS V3.0
... the dos/library calls and more when you run a ... This is handy for both the programmer and the ... Have you ever installed a program to your ... and then discovered that it will not run with... library but you don't know which?

[illegible]828 - VIRUS WORKSHOP V4.8
... the one and only Virus Workshop by Markus ... Now in the Version 4.8 . Test it!

[illegible]424 - ANTIFLICKER
... to stop the Flickering when you use the ... in Hi res move.

[illegible]969 - TUDE V1.0
... extensive and easy way of degrading your ... for all sorts of purposes. It is useful for playing ... on A1200s for example which need kickstart ... is a GUI version included as well as a CLL ... so most people will have no trouble using it. A ... useful tool for all Amiga owners. Good.

[illegible]523 - RELOKICK V1.41
...THER(!) version of ReloKick. Galahad of Dual ... ReloKick 1.4, so I decided to improve on that!

[illegible]356 - NOERRORS V1.3
... function is to hide physical disk errors from ... disks and hard disks, so these disks can then be ... without DOS showing read/write errors.

[illegible]662 - DCOPY V3.1
... copier on the Amiga. No new Features over 2 ... been updated with new code information.

[illegible]164 - (AGA) ASA FIX DISK
... disk full of utilities for those A1200 and ... owners out there who can not for the life of them ... of there favourite games or demos to work.

[illegible]360 - WB2.0 TUTORIAL
... a lot more options open to you than just play... games. In the chapters Files Explained & Menus. ... to explain the workings of WB2,as the manuals ... with your Amiga.

[illegible]242 - RE ORG V3.11
... disk optimizer that can be used for floppy disks ... disks. Supports new Kickstart 2.04 features ... hard and soft links and High Density drives.

[illegible]685 - APRO ASTROLOGY V3.5
Astro_22 as released is a starter program which accurately calculates the position of the planets, cusps and zodiac positions to within 30 seconds of arc. I intend to increase the usefulness of the program to eventually cover all aspects of the subject which will appeal to professional as well as novice astrologers not wishing to pay 200+ for a decent package. Updated version

^+ V0489 - AMIBASE PRO II
This is the latest database program which is an update

^+ V0827 - REPAIR IT V2.01
An essential set of tools for recovery. Disk speed reports the speed of a selected drive. DiskSalv will try to recover as much data as possible from a corrupt disk. HDTool will install the OS3 disk caching and FFS to the hard drive of a lesser operating system.

^^ V1661 - NATIONAL LOTTERY
This is a national lottery prediction program called Lottery Winner. It consists of a database system which can record the National Lottery results from week to week until it has sufficient data to make certain types of predictions or just a random guess. Good.

^+ V1679 - COP THE LOT
Lottery prediction/database which can store the previous lottery results and also select random numbers etc.

^+ V1771 - COURSE FORM
Like to put a bit of money on the horses? This utility allows you to enter the figures for the horses in a particular race, plus the course details, and then it will try to predict the winner of the race. Good.

^+ V1778 - LOTTERY CHECKER
is a great tool for checking lottery numbers. Good for office syndicates. Find 'A' Date is a database which stores and matches people up for blind dates. Sneaker is used to view and change binary files, technical users are always finding these programs useful.

^* V1836 - MRBACKUP V2.1.4
is a hard disk backup program for the Commodore Amiga family of computers. It provides a wide range of services to support Amiga file management and backup/restore of files to/from hard disk.

^+ V1837 - DISK DOUBLING V1.9B
This package allows you to create virtual partitions on your HD. Files stored in such partitions get automatically compressed and decompressed whenever you access them, in a transparent way.

^+ V1932 - X-FILES GUIDE
The X-Files Guide disk is full of very usefull information if you are interested in the x-files. It contains over 674k worth of text, ranging from episodes 1 and 2 to the x-files transcript. It also has a survey you can fill in and send off to the auther of the disk.

^+ V1949 - MORE HD INSTALLERS
This disk contains the latest installers for the following games: ABASE, Arnie 2, ATR, Bump 'n' Burn, Naughty-ones, Rise of the Robots, Sensible World of Soccer, Shadow Fighters, Lion King, MKII_PAFIX, Parasol Stars, Rock'n'Roll, Skimarks 2, Skeleton Krew, Super Stardust, SoftB3, Trolls and Uridium 2.

^+ V1963 - VIRUS WORKSHOP V5.1
This version of Virus Workshop is as good as any of the others or even better. You can check every single file on there own or all together. If it finds a virus it will tell you what it is and exactly what to do to gat rid of it.

^+ V1965 - BALLS
Balls is yet another lottery predictor program. It is actually quite good apart from the £5 fee if you want to get the registered version. It can predict random numbers or numbers from pre-entered numbers of upto 72 weeks earlier. A well presented lottery predictor, if your into all the lottery hype get this.

^* V1969 - AQUARIUM SIMULATOR
3d Aquarium Simulator (uses MUI2.0). check it out.

^+ V1982 - SCOUT V2.1
is a tool that allows you to monitor your computer system. It displays many different things like tasks, ports, assigns, expansion boards, resident commands, interrupts, etc.

^+ V1983 - DOPUS UTILS 2
This is the second selection of utilities for use with the most popular Amiga Disk utility Directory Opus.

^+ V1997 - LOTTERY PREDICTOR
Another lottery prediction system. This latest addition has a few added advantages over the other available. For a start this one uses intuition fully so it multitasks and it uses only a small window on your workbench.

^+ V1998 - AMIGADOS GUIDE V1.5
A very handy program for those who want to learn more about Amiga DOS or those who simply want an easy reference for commands etc.. The program consists of an easy to use point and click system with a index.

^+ V1999 - COP THE LOT PRO
Yet another lottery program. This one will only generate random numbers, there is no option to actually make any sort of calculated prediction.

^+ V2000 - BACK DOOR V6.0
This is the latest version of this now quite well known game cheat database. There are cheats and tips for hundreds of different games including a lot of recent titles.

^+ V2001 - NATIONAL LOTTERY
This program is more than just a random number generator. It uses uses a special History formula with Chaos Theory to produce a more accurate prediction.

^+ V2004 - LOCKUP V4.0
is the newist version of the old utility Lockup which basically allows you to Lockup your hard drive with a password to enter and get it going again.

^+ V2005 - SHAPE SHIFTER 3.2
is a multitasking shareware Macintosh-2 emultor for the Amiga. It allows you to run mac software withour additional hardware. New updated verion.

^+ V2014 - MESSY SID 3.0
this is the latest verion of which will read and write PC Floppy disks 720k or 1.44 if your drive can take it.

^+ V2015 - MOVIE MAKER 2.0 (AB)
have you ever wanted to create your own movie and see it flourish in the Oscars, then nows your chance.

^+ V2026 - ROUTE PLANNER
Highway trip planner. Requires MUI 2.2

^* V2072 - VIRUS_CHECKER V8.04
Best virus killer on the Amiga to date. Updated version with bug fixes and updated virus information.

Magic Workbench & W/B

^* V1043 - SUPER DARK V2.1A
A screen blanker with some special features. It is similar to the After Dark screen blanker in the PC and Mac worlds. Features include a lot of different screen effects, a screen locker, and more.2

^+ V1964 - COLOUR WORKBENCH
Allows you to basically change your workbench screen to purple or whatever colour you fancy. It also changes the font from the usual workbench one to one that is really small. There are icons which allow you to change the one's you already use to some they have. They have also included some backdrops for you to use.

^+ V1968 - STAR TREK BACKGROUNDS
Heres some new backgrounds for workbench all based around the Star trek T:N:G series.

^* V2062 - ICONOGRAPHICS V3.0
is a collection of eight colour icons for Workbench 2 and 3. All standard system icons are included, with many additional icons (PD/Shareware programs, different types of data, custom drawers, and ToolManager.

^* V2064 - 100 USELESS PATTERNS
102 background patterns in 2, 4, 8 and 16 colors.

^^ V2069 - BREATHTAKING PATTERNS MWB
This package contains 11 photo-realistic backgrounds: Beach.png, BricksGrey.iff, Clouds.png, Confetti.iff, Mountains.png, Pebble.iff, Storm.iff, Stucco.iff, Terrace.png, Thunder.png, Valley.png.

^^ V2070 - MWB ICONS, PATTERNS
A collection of really nice MWB compatible stuff.

Emulators

!+ V0817 - A500 PLUS EMULATOR
Have amiga 500 and want workbench 2.0 then just install this disk onto your floppy 1.3 version of workbench or your HD for complete WB2 compatibility.

^* V1178 - KICKSTART 3 EMU
Kickstart 1.3/3.0 emulator and decibel patch program will give you the option to have kickstart 1.3 or 3.x(as used in NEW Amigas) in your Amiga. This is much enhanced over the version that was given away free.

^+ V1336 - THE BBC EMULATOR
Contains commands to allow existing files to be transferred from a BBC with DFS by means of a serial cable.

^+ V1659 - MSDOS/AMIGADOS V2.3
This is a very interesting utility which should be useful to anyone who uses both PCs and Amigas. The tool allows you to create a directory on which you can store MSDOS commands and then they can be used through the shell as if they were AmigaDos commands. Great.

^^ V1868 - PC TASK V3.1
is the first and only software 80286 emulator for the Amiga range of computers. Transfer files between your Amiga and MSDOS. Compatible with MS Windows 3+

^^ V1931 - ZXAM v2.0
The latest Spectrum Emulator available. Basically it allows you to run Spectrum software on your Amiga. Requires the AGA chipset but does require WB3+ and a 68020 CPU or better

^* V2059 - FRODO V2.0
is a multitasking freeware C64 emulator for the Amiga. OS2.1 & a 68020+ are required, as well as copys of the original C64 ROMs, which are not included.

Office & Print

^+ V0575 - HOME BUSINESS PACK (6)
QED, Text editor. Text Plus 2.2E, Word Processor. AZSpell, Spell Checker & Dictionary. BBase, A Database program. DATA EASY, Another database. BizCalc, Loan calc. LCD, Calc. SPREAD, Spreadsheet. Budget, Personal Finance. UNITS, Various conversions. CLERK, Small business accounts. SUPERDUPER, FLASHERCOPY, Copier's. TYPIST, Typing Tutor. BOOTX, Virus Killer. SYS-INFO, System analyser. DOSMANAGER, Directory program. FONTLIST, FONT MANAGER, Utilities. PRINT STUDIO, Printing Tools. (6 disks)

^+ V1114 - PRINT LABELS UTLS
Includes various programs like DOC DUMP v2.1, ENVELOPE PRINT v1.20, INLAY MAKER v1.4, MC MASTER v1.1, BANNER v1.0, LABEL PRINT

^+ V1279 - PRINT A CARD
Want to print a business card or any other type of card then this is the software for you.

^+ V1222 - PANASONIC STUDIO
The PanaPlus driver is a software for controlling printers with the Commodore Amiga personal computer.

^+ V1236 - INVOICE PRINTER
invoice printing that we help aid any small business.

^+ V0928 - LITTLE OFFICE
Its the all rounder do everything, all knowing, all seeing?? Well lets just say its very good.

^+ V1179 - FILE-O-FAX
was designed to enable computer operators to be able to work at their leisure without worrying about forgetting those important meetings,what they had to do on any particular day or locating business colleagues tele no's.

^+ V1467 - AWARD CONSTRUCT
A very handy tool for creating your very own awards and certificates. There are many styles, fonts and graphies to choose from. could also be used to make small posters, signs or leaflets. Easy to use and very effective.

^+ V1069 - PRINTER DRIVERS HP
Deskjet 550 colour driver, Deskjet 500, Deskjet 500c, Ricoh HP1200 400dpi, Canon LBP, Canon BJ300, BJ130, BJ10e, Canon_48, Canon PJ 1080a, HP Paintjet.

^+ V1278 - MAIL-O-DEX
An excellent way to keep names, addresses, Phone numbers, comments etc and then print out labels loads of them in 1,2,3 and 4 columns.

^+ V1044 - FANCY PRINTING
BANNER v1.4, GRAPH PAPER v1.2, DISK PRINT

^+ V1357 - CITIZEN MANAGER
The Citizen Print Manager has been designed in conjunction with Irseesoft.

^* V1051 - EASY CALC PLUS
is a spreadsheet designed to be both easy to use and fast. If the program looks nice, that wouldn't to be bad either. Unlike other software where the author writes the program first, then bolts on a help system, I have designed the help into the program from the beginning.

^+ V0366 - 600 BUSINESS LETTERS
Over 600 Standard business letters on this disk. Can be used as they are or insert parts into your own letters

^+ V0390 - AMIGA FOX DTP
The first amiga PD Desk Top Publishing program. Excludes various extra features over the old Word processor, Test Editor, Graphics editor and loads more.

^+ V1680 - AWARD MAKER 2
This is a very good tool for the creation and printing of Awards and certificates. There are hundreds of types to choose from then you can choose a font a border and also some of the text etc. Very good results.

^+ V1862 - INVOICE DATABASE V2
Intra is a rather simple, but therefore easy to use database program that was especially designed to deal with invoice information. Everybody, as we like it

^+ V1995 - BEGINNERS TYPING TUTOR
This is by far the best typing tutor for years I have seen on the Amiga. It is worth every single penny. It consists of two games, one is called the letter game and the other one is called the word game.

^+ V2003 - REM DATE V2.0
is a calender, reminder and fileofax all in one.

^+ V2019 - TEXT ENGINE v3.0
Allows you to make your every own letters and documents then print or store then on disc.

3D & Graphic

^+ V1247 - TEXTURE MAPS (ABC)
A collection of textures for use with the any program that will take high res textures.

^^ V1554 - IMAGINE BUDDY (AB)
Here's some features of the new interface: Draggable and Sizeable text and index windows · Button Gadgets for the Search and Move functions Improved Searching The text is now positioned at matching hypertext links and all matches are highlighted for visibility.

^* V1229 - MAIN ACTOR V1.53
This is an all round animation utility that will create, playback, time and edit animations of any length or format (including graphics cards). Very good. (AB)

^* V1811 - IMAGESTUDIO V2.0 (AB)
is written for the casual graphics user who wishes to convert or manipulate various graphics formats on a modest Amiga system.

^* V1891 - IMAGEDESK V1.6
is a program to catalog picture directories by generating small representants of the pictures

^+ V1907 - POVRAY RAYTRACER
Renders in a window on a public screen (even Workbench) with colour sharing. simple HAM/HAM8 support autodetects Cybergfx Screen and renders in direct Colour (15/16/24Bit) if possible.

^+ V1922 - REAL 3D V2.X OBJECTS
Objects are pretty large in size, espessially the 4 cylinder engine, you might run out of memory pretty fast. My Amiga 4000EC30 + FPU is now equipped with 18MB RAM, and I can now raytrace all of my objects.

^+ V1925 - SPACEDOCK STATION
* 1.3Mb, so you'll need a healthy chunk of memory. * No Slicing was used in modelling, to keep things as small as possible. * Space Doors open using the new States function. * Marquee of Space Door lights.

Comms

^* V1745 - TERM V4.2 [030]
latest version of this very well known comms terminal program. Version 4 has even more features and although it is not for beginners it is probably the best available.

^+ V0979 - NCOMM V3.0
Is a comms program based on Comm v1.34 with lots of very nice enhancements. Has new functions over v2.0

^* V1722 - AMIGA TO PSION S3/A
is a implementation of the Psion link protocol which is e.g. built into the Psion S3/S3a ROM. It's main purpose is to provide vice versa nfs like file access.

Education

^+ V1079 - KEYBOARD TRAINER
This program only concentrates on basic keyboard skills, and is in effect, still a Beta Version, I think you will find it a vast improvement on most so called tutors.

^+ V0793 - AMIGA BEGINNER
You asked for it! A tutorial for the beginner on using your amiga! Covers the CLI and Workbench, its great for learning about the Amiga. Also contains numerous beautiful 16 colour icons for WB v2.04.

^+ V1845 - DPAINT 4 BUDDY (AB)
Will teach you how to use Dpaint 4. It works by running along side the well known paint package providing hands on demonstrations of the various features. It is a very good way of learning a program so you want to learn DPaint then this System is one of the best ways.

^+ V1881 - AMIGATRAINER
very powerful & flexible program to learn foreign languages. You enter the words yourself, so they aren't related to any special language, school or book. every word there are 2 additions to enter.

^^ V1897 - GEOGRAPHICAL ATLAS
AmiGlobe is a geographical atlas that allows you to navigate in the world map, zooming everywhere, get country data, etc. Requires 2Mb of RAM. (AB)

Music

^+ V1269 - THE OCTAMED TUTOR
Welcome to the Octamed Tutor, a simple guide through the basics of this excellent music program.

^+ V1207 - OCTASTUFF
Welcome to OctaStuff, a disk based around work with OctaMED 3 and 4.

^+ V1882 - ART OF NOISE TRACKER
NEW tracker, NO ProTracker Clone!, 8 channels, fm synthesis, drum sequencer, wave table synthesis.

TIPs, Cheats & Related

^+ V1416 - EYE OF THE BEHOLDERS
This disk contains a selection of utilities and software for Eye of the Beholder II, like end of level saved game file, Eye of Beholder 2 special quests explanation, EOB2 Character Editor, Eye of the Beholder Solution, GIF pictures of all 12 levels in Eye of the Beholder.

^+ V1773 - ACTION REPLAY CHEAT
This disk has on it a text file which contains loads of codes for those people who have action replay devices. There are cheats for hundreds of games. Good.

^+ V1848 - DIY REKO
This disk has on it an Arexx macro which, when used in conjunction with ImageFX, will make reko cardsets for Klondike AGA almost automatically. Also included is a detailed Amiga Guide document explaining everything.

^+ V1468 - GAMES HD INSTALL
This disk provides you with the software needed to install certain games onto your A1200. The games that this disk can install are BodyBlows, Goal, Lemmings 2, Superfrog, and Walker. Could be very useful.

^+ V1662 - HD GAMES INSTALLER 2
Contains a variety of hard disk installer's for a few well known commercial games. These games are as follows: AlienBreed 2 AGA, Jungle Strike, Assassin (Special Edition), Body Blows, Goal, Ishar 2, Zool 2 AGA, Ruff and Tumble, Body Blows 2 AGA, StarDust, Super Frog, Walker, Rise of the Robots, Bubble and Squeak, ElfMania, Aladdin AGA and Motal Kombat 2. Great.

^+ V1885 - NEW HD INSTALL
Hard Drive Install scripts for 3 games, Beneath a steel sky Flashback King's Quest VI. New updated version (small bugs fixed from last version).

^+ V1988 - DUNGEON MAPPER V0.3
This is the first version of something called Dungeon Mapper. It will work on Workbench 2+. It allows you to design your own maps for games like Dungeons and Dragons which can be very usefull. It also has Tetris on it if you boot it from Workbench.

^+ V1994 - CHEATS COMPILATION
This disk is a demo which gives you a taster of what you can have if you buy the regestered version.

^+ V2041 - F1GP Ed v3.03
Formula One Grand Prix / WC Editor & F1GP-Ed non-english translation files & Track data for GPDisplay

^+ V2056 - TREK-THE GUIDE V1.6
Trek-The.guide is a complete Star Trek Database. It contains a listing of all the Trek series' complete with an episode synopsis, original airdate, Director and Writer Credits and Guest stars.

Video

^+ V1196 - DESKTOP VIDEO
Dot Matrix Stroller, Is a video titling program intended for use in adding scrolling captions to video's. Flood Effect loads an IFF picture and displays it with a Oflood effectO so that it floods the screen.

^* V1156 - VIDEO TITLER
Generates professional looking TV titles and credits for your own video's.Outstanding abilities are very smooth scrolling, colour slides and usage of colour fonts.

Games

^+ 4434 - BLACKDAWN v2.1
3-level Dungeon Master style Alien Breed:- charge around the maze levels, shoot lots of aliens, find the lift & move on. but do it in 1st person perspective view.

^+ 4442 - SCORCHED TANKS V1.85
The awesome artillery tank game. This one contains loads of goodies like 70 weapons and 13 shield types as well as new goodies.

^+ 4451 - LAST LAP
is a car game for one or two players. It is excellent in two player mode. There are about 10+ different tracks for you to race around. Some of them are quite easy at the start but as you go on they get a lot harder. On the tracks they have these squares which if you drive over it shoots you on even faster they you are already going.

^+ 4454 - BATTLE TRUCKS
is a one or two player game in which you choose your own truck and then buy it. You can add nitros, new motors or even buy a brand new truck with your winnings from your races.

^+ 4467 - JOUSTER 3
If you haven't heard of the good old favorite, Joust, then you're a pretty young or fairly old dude. :) Anyway, this game brings Joust to the Amiga and also has improvements such as powerups, etc. You can even have a pterydactyl as a steed. For 1 or 2 players.

^+ 4468 - PATCH LEMMINGS 2 RUN FROM HD
Patch to allow Lemmings2 to run from hard drive.

^+ 4469 - CRITICAL HIT
is a highly detailed fantasy combat game, which re-creates tabletop war gaming on the Amiga (requires 1 MB RAM). A strategic war game with excellent graphics, 3 D landscapes and a wide variety of fantasy combat figures and scenery - Campaign and map designer.

^+ 4472 - CULTURE TANK
A single screen tank combat game with up to 6 tanks, which may be human or computer controlled. Team or all-against-all modes. 3 types of weapon including missiles and flamethrowers.

^+ 4552 - H.E.R.O
A big interactive event is going to take place. We are about to release a game which we had to miss for a long time now (too long if you ask me!). Coming soon is an Amiga version of the old Activision game H.E.R.O. And that's not all. You can be a part of its release.

^+ 4555 - TRAIN DRIVER SIM V1.6
Profile chart generated in real time showing next 10 miles - Fog, in addition to Dry/Wet - visibility 100 yards, very slippery rail - Data updated and more crossovers added between Crewe and Carlisle - Key press detection improved - Now creates timings for any custom train : If, on the Startup screen, you type in a different Code from the built-in trains in the Save drawer, and then set all other parameters, and then click OK, the program will look in. Trains/ and see if a file exists for that train.

^+ 4558 - INTMERCS
Rebelstart type strategy game. Requires 2MB. For one or two players. Complete with four scenarios.

^^ 4559 - WORMS MAPS
These are a buncha maps me and my flatmates made for the amiga version of worms.

^+ 4561 - ELDRITCH V1.35
Top-view adventure hack-and-slash.

New Disks

^+ V2086 - VISUAL E DEVELOPER PROFESSION
A visual develop-environment, like Visual Basic. Requires the language E. Click & drag to make your applications.

^+ V2087 - MISC DISK UTILS
A selection of disk system utilities to format bad disks, undelete files, create your own disk bootblocks, compare files, show black usage, split larger files, virtual floopy disk utility, Noise saver for floppies and hard drives and much much more.

^+ V2088 - BACK-IT-UP 5
Contains a selection of Amiga backup software for your hard drive needs, ABackup v5.11, BackMan v13.0m, DBackup v23.4MUL Fitter, PCRestore and ucdback v9

^* V2089 - AGA EMULATOR V1.0
Emulate AGA-chipset on your Amiga.

^+ V2090 - FULL OCTAMED V5 TUTORIAL (A-D)
Is the complete OctaMED V5 Companion in Amiga.Guide Format. We have now released it as Freeware, (copyright retained).

^* V2095 - FANTASTIC WORKBENCH 2.0 (AB)
New Magic.WB2.0-style collection, high quality, R1-standard size Icons, Brushs and other MWB-stuff.

^^ V2098 - TWISTED MAGIC WORKBENCH
Features 27 twisted AGA pictures for use with your workbench as a background. Look at it this way: instead of that boring grey screen you now get a twisted picture with a REAL FULL AGA copperlist.

^+ V2103 - PRINTER UTILS & DRIVERS
New updated printer drivers and utilities. HP_CONTROL.LHA (93K) Setup tool for HP-printer V1.65 LJ4BOOST121.LHA (45K) LaserJet4 Printer-Driver Package 1.21 PRINTERSPOOLER.LHA (82K) Printer spooler. V1.1 PSUTILS_V1R16.LHA (183K)

^^ V2104 - HDCLICK V3.0
HDClick is a program-selector/HD-menu. With HDClick, programs can be started very easily by selecting gadgets with your mouse.

^* V2105 - BOOT & C COMMANDS
Contains various simple little utilities which can be used within your startup-sequence or from workbench, Blank the Border, Gadgets for Workbench, Bootscreens, Kickmapper, workbench sounds, system spped hacks, start a program, softboot, and the best launcher for your aplications.

^* V2106 - WINDOWS 95 TASKBAR
Contains various programs to enhance your workbench with windows 95 utilities for the Amiga.

^+ V2109 - MAD HOUSE SCREEN BLANKER V2
is a modular screen saver like others. We tried to make the main program (the 'server') more configurable and to program nice blankers - here is the result, we hope you like it! 60+ modules.

^+ V2112 - SOLVES FOR MANY ADVENTURES
This is a collection of over 100 solves, walkthrus and hints for a bunch of old adventure games - text adventures, graphic adventures and a few odds and sods.

^+ V2114 - EPSON STYLUS COLOR II DRIVER
This driver should enable you to drive both II and IIs printers upto their full resolution of 720dpi * (see later for some notes on this).

^+ V2115 - BOOT UTILITIES
BangerMenu v3.3 - Startmenu activate CAPS Lock, gfxboard-support. CpuControl106 - MMU based softkicker; replaces CPU command. DarkSound v2.5 - Changes Workbench Sounds each boot.

^+ V2116 - LIBRARY FILES
Boards v2.7 - Boards.library V 2.7 - 300 Expansion boards known. DFunc v38.7 - Multipurpose library, GUI/TXT/GFX/DISC+. Identify v4.0 - Expansions, Hardware, Alerts, Functions (V4.0). LibGuide - Biggest Guide of Amiga shared libraries.

^+ V2117 - NEW DATATYPES
akPNG43x, AkPNG.datatype V43.1 (PNG). BMPdt405, Bmp picture datatype v40.5 for >= OS 3.0. DecompressorDT, Datatype for multiformat compressed files. Dirdatatype016, Directory datatype V1.6. DTypeGuide, Guide of datatypes.

^+ V2118 - XTRUDER V3.2
By Martin Wulffeld. This virus killer can detect more than 244 filevira. Has a screen mode- and font sensitive GUI along with a comprehensive ARexx interface and locale support. Minor update!.

^+ V2119 - HP DESKJET600 PRINTER DRIVER
HP Deskjet 600 b/w 600 dpi printer driver V1.0a bugfixed for 60000 support.

^+ V2120 - JAPANESE TEXTS EDITOR V3.0
This is a demo of JIWA, a processor for writing in japanese characters. Include Hiragana Katakana and Kanji mode through romanji input.

^+ V2121 - GIVE STARTMENU
A MWB look and style! (V2.2). Collection of brushes and icons in the MWB sytle for use with StartMenu v2.0. This is version 2.2 and has several enhancements: Installer script. More .bru files. Updated logo designs. New Startbutton image. New StartMenu icons.

^+ V2123 - MAGICRABBIT'S ICON COLLECT.17
Style 8 colors MagicWB icons. Also som additional stuff like, IB Navigation buttons and other fun things.

^+ V2124 - RAYLAB RAYTRACER V1.1
With this package you get: Two executables: raylab000 - for any 68k Amiga. Raylab881 - for Amigas with 020+FPU or better. The documentation (both in ascii and in AmigaGuide format).

^+ V2125 - SYSSPEED V1.51
The Speedtester, this program will run various tests on your amiga computer and give results.

^+ V2126 - OFFICIAL STAR PRINTER DRIVERS
The Star driver is a software for controlling a printer with the Commodore-Amiga personal computer with the purpose of creating high quality output.

^+ V2127 - EASY-TO-USE ACCOUNTS V3.1 (AB)
An intuitive & easy-to-use accounts program, specially designed to be suitable for non-computer-users as well as experts. Features include: - Multiple accounts, with optional minimum & maximum limits.

Code References

^+ Works on all machines
^* Req Workbench 2.0 or above
^^ Req Workbench 3.0 or above
(ABC) Product has ABC disk (ie, three)

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* Double check prices when ordering as many of the above are Special Discounts

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Month In View

Exciting things loom on the horizon, including a rare TV appearance by our very own **Nick Veitch**...

Well, the deadline for bids has passed, and hopefully by the time you read this, *Amiga Format* will know who has been successful in purchasing Amiga Technologies. (You can check daily on the *AF* web page <www.futurenet.co.uk/computing/amigaformat.html>). Hopefully in the next issue we can bring you a full report of what went on, and what the new owner's plans are.

Whatever happens it looks like UK Amiga owners are going to have a treat in store in May. Instead of the two proposed shows (see last issue) there will now be one big one, with support from developers from all over the world. Check out the news pages...

In the meantime, loads of exciting things have been going on. Not one but two nice graphics cards have turned up in the office, and Ben got to give them a good workout (see page 56).

It was interesting this month to be invited on Sky's "Chips with Everything" show. After all, it isn't often that the Amiga attracts the attention of "mainstream" computer programs. However, it soon became apparent that the request came about because so many Amiga users had been badgering the producer since the show started. It all went rather well (at least I thought so), so hopefully I'll get invited back soon...



Nick Veitch
Editor


It's Bath Time
CONTENTS

MULTIMEDIA TUTORIAL P92
It's the end of the line for **Ben** and his pictures of cameras. The multimedia tutorial wraps it all up this month...


Modem Pack
92%

MODEMS P64
The effusive Mr. **Irvine** gives us the benefit of his online opinions.


Apollo A620 Accelerator
59%

LONG TERM TEST P69
A reader writes, and gets in print – find out what average users think...


CV64/3D v PicassoIV

GRAPHICS CARD HEAD TO HEAD P56
The graphics battle of the year. Can the old master show it's superiority over the swanky new kid? GFX cards ready... reviewer ready... Pheeeeeeeep!


Euro League Manager
20%

EURO LEAGUE MANAGER P38
It's European football at its most memorable. It seems like this game appealed to **Andy** as much as a home defeat for Rovers, but it may appeal to some.



AMIGA FORMAT

AF NEWS



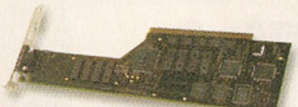
It's Quake, but, you guessed it, on the Amiga. Find out how it came about on page 12

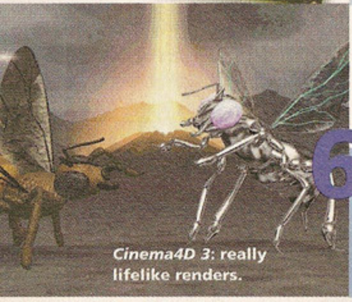


Yamaha have produced the fastest CD-ROM writer ever. Full details page 11

AF SERIOUSLY AMIGA

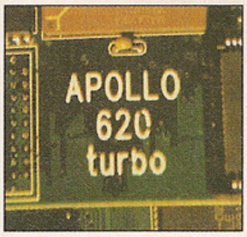






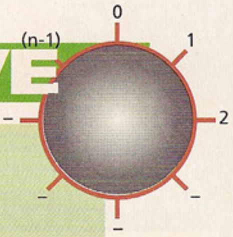
Cinema4D 3: really lifelike renders.







AF CREATIVE

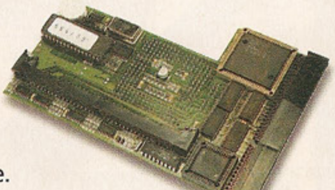






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Your letters answered.

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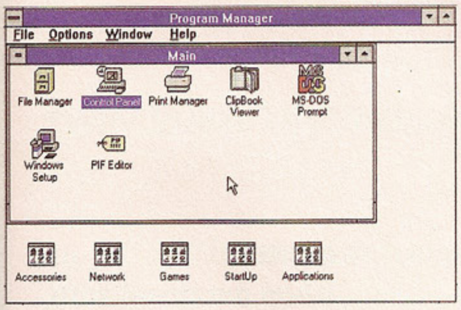
ISSUE 96 APRIL 1997

AF COVER STORY



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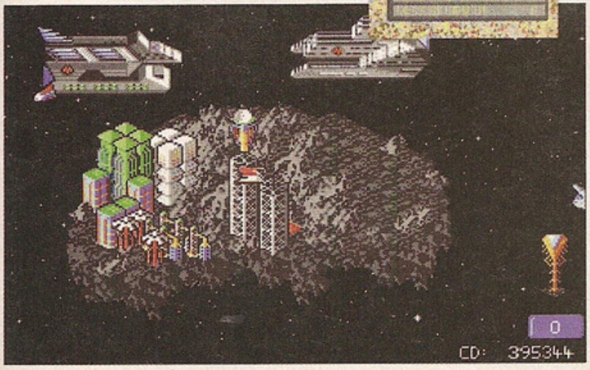
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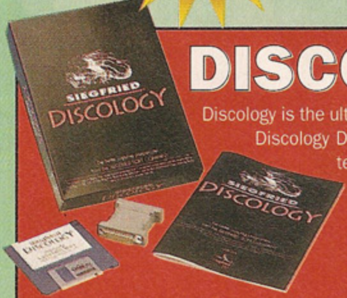
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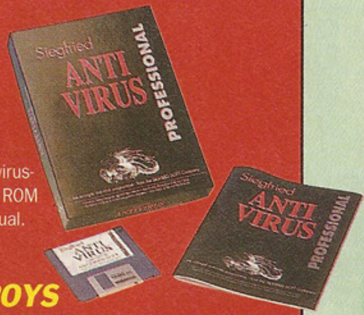
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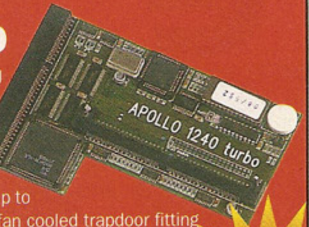
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AMIGA FORMAT news

World of Amiga grows

Two shows beat as one. Gasteiner have announced that their Spotlight Amiga 97 will now not be taking place because Gasteiner are putting their full weight behind the World of Amiga show in May.

This decision can only be good for the strength of the show and already big UK Amiga names like Power Computing, Wizard Developments, Blittersoft and HiSoft are pledging their attendance. Wizard Developments are even importing big names like Kermit Woodall (*ImageFX*), Greg Perry (*Directory Opus*) and Florian Zeiler (*TurboPrint*) so that they can show visitors to the show their particular software and new additions like Nova Design's *Aladdin 4D*.

Show perennials ICPUG will be there, running their usual free advice clinic. "We'll have a number of Amigas on the stand and our team of experts will be ready to help visitors." said Janet Bickerstaff, familiar to anyone who has ever cruised by the ICPUG stand at shows gone by. ICPUG, too, have their own special guest – Dave Pocock, ex-technical support manager at Commodore UK.

Epic Multimedia will be showing off their new version of the Epic *Multimedia Encyclopedia* and their new *Interactive Encyclopedia of the Paranormal*, while Digita, Guildhall, Golden Image and many others will also be on hand to sell and demonstrate their newest products.

The World of Amiga show takes place at the Hammersmith Novotel on Saturday 17th May (between 10am - 5pm) and Sunday 18th May (between 10am - 4pm). Ticket prices are £8 for adults and £6 for children and you can advance book your tickets on 01369 70776, probably a good idea given the crush for last year's show.

One more month



Petro's enigmatic smile indicates the waiting will be over by the time our next issue hits the streets – he hopes!

Following a telephone conversation with Petro Tyschtschenko today, 27th February 1997, *Amiga Format* can reveal that the buyout of Amiga Technologies is still going full steam ahead. Both Herr Tyschtschenko and Herr Hembach, the liquidator, have been visiting the various bidders all over the world, and now all that remains is for Herr Hembach to decide which of the bidders is most worthy of Amiga Technologies.

He has been very carefully checking their financial status to ensure that the Viscorp situation isn't repeated and is favouring those offering cash for the company and assets over other options such as bidders just wanting to buy the inventory or the Amiga name.

As it stands, it looks as if the buyout can realistically be resolved by the middle of March '97, with due diligence to follow. This again should only take a month at the most, giving us a new owner ready for action by the beginning of May. We wish Petro and his team all the best, and look forward to giving you the good news in next month's *Amiga Format*, on sale 17th April.

IF ANYONE CAN...

Canon have long been known for quality printers at a good price and the BJC-240 is no exception. The price on this new-ish printer has now dropped to just £179 and comes with a £5 cashback voucher redeemable against the Canon Photokit which contains one PhotoRealism ink cartridge, one spare ink cartridge holder and 60 sheets of Canon high resolution A4 paper. The Photokit normally retails for £29.99. For more information on the BJC-240 you can call 0121 680 8062.



The print quality of the Canon BJC-240 is incredible as this PhotoRealism printout shows.

Yamaha wheels spin faster

Yamaha has just launched the world's fastest CD-ROM recorder – the CDR400. The new drive, which is available in both SCSI and ATAPI, internal and external, tray and caddy forms, is the world's first drive to read at 6x speed and write at 4x speed, theoretically giving you a written gold disc in less than 20 minutes. The drive also has a 2Mb buffer to help eliminate buffer under-run problems that plague CD creation and has a Flash ROM to allow for software-based hardware upgrades that you can upload to your drive. The CDR400 supports seven standard formats including CD-ROM, CD-ROMXA, CD-I, CD-DA, CD-Extra and Video CD. The drive will be available by the time you read this and the internal SCSI and ATAPI versions will be priced at just £450 (£528.75 including VAT) and if you want to find out more, you can contact Yamaha on 01908 366700.

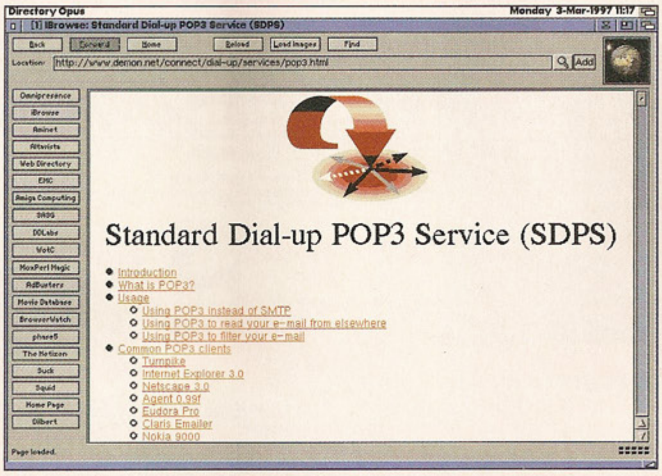


The world's first six speed read/four speed write CD-ROM writer, and it works on the Amiga!

Demon pop in

Demon has taken the plunge and officially announced their POP3 mail service. Demon have been running a test service for a while now, but the POP3 service is now officially online.

Demon have pledged to continue to support SMTP and say they have no intention of stopping the service, which most Amiga owners will currently be using. However, Demon is in a minority of ISPs that use SMTP and most email packages for the Amiga tend to focus on POP3, leaving Amiga owners with a less than modern choice of mail packages.



Demon fall in line with most other ISPs the world over by offering full POP3 service in addition to SMTP mail.

Now that Demon has gone POP3 it means that mail packages like YAM and the new MicroDot II from the author of Voyager and AmFTP can be used.

The POP3 protocol allows you the user to download mail as and when desired, and from any location or machine, simply by supplying the correct password.

Mail read on a machine other than your normal one need not be downloaded to that machine exclusively, so there's no need to miss out on mail. For more details on a Demon dial up account, call Demon on 0181 371 1234 or email **sales@demon.net.**

SILICA FAILS

Silica Shop, part of the SDL group rescued last year by the Anglo Corporation, has again gone out of business. Unfortunately, the main cause of this seems to be linked with Silica's push into the PC market and their purchase of 19 of the Escom shops left vacant by that company's demise.

Most of Silica's income, historically, came from the Amiga and their support of it at shows and in advertising was well-known. But with the demise of Commodore they struggled to find other sources of revenue which is what caused their failure the first time round. It seems that this bankruptcy has again been caused by Silica attempting to take a foothold in the notoriously treacherous PC market.

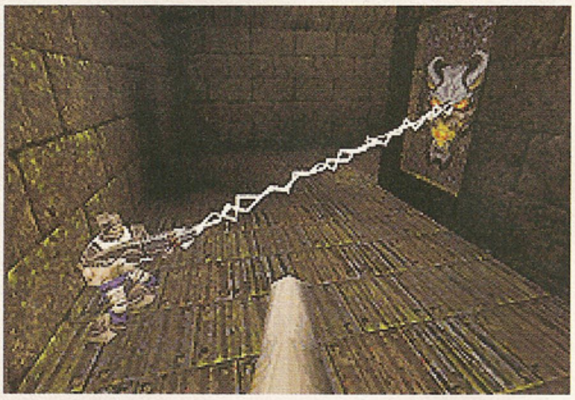
Dealers interested in getting Amiga 1200 stock should contact Amiga Technologies directly on 0049 6252 709 788.

iD has the Amiga Quaking!

Fancy a game of *Quake* on your Amiga? Yes, thought so. Well, you can, if you like, but you'll need a real top-of-the-range Amiga to do so. We've tried it on our A4000/040 and we get about four frames a second in the smallest screen size, but reports have it that running on a CGFX-supporting RTG graphics card on an '060-based machine with lots of very fast fast RAM, brings that frame rate up to about 15fps.

But how did this come about? You won't have seen any ads from iD, the creators of *Quake*, so what is going on?

QUAKE AMIGA



Run a PC owner's favourite game on your Amiga and sit back and smirk when he realises it's possible after all.

The answer is the net. There are several stories floating around as to how exactly the Amiga port came about, but essentially they revolve around the fact that, one way or another, iD's source code for the game was "liberated" from their internal network. You may well remember a similar fiasco, that allowed a pre-release version of *Quake* for the PC to escape about a month before the game was properly released.

Speaking to a representative for GT – the distributors for the PC version of *Quake* in the UK – they said, "It's unlikely that iD will have anything to say on the matter. Of course, the theft of their source code is a serious matter, and if there was an SGI port, then, sure, iD's lawyers would jump all over them. But an Amiga version is not a big concern."

Unfortunately, *Amiga Format* was unable to contact the author of the Amiga port for his side of the story – the only method of speaking to him was via IRC.

TIME GENTLEMEN PLEASE

If you are reading our excellent CD-ROM version of AF, you'll probably have found a demo of *Time Warrior* in the Screenplay/commercial directory.

Thanks to our special offer you can now upgrade this exclusive CD-ROM version of *Time Warrior* for just £4.99 plus postage & packing. You will receive an unlocking disk which allows unlimited time and gameplay. As an added bonus you can also order the paperback book written by Time Warrior's programmer from which the game was born, for an extra £1.00.

If you don't have a CD-ROM drive, the hard drive and floppy drive versions are also available from Fifth Dimension on 01709 888127 or email them at: **phil@ware5d.demon.co.uk**

FRAMED IBROWSE

IBrowse v1.1 is now available as a free upgrade from HiSoft. The new version supports frames and also adds support for things like cookies, meta-refresh tags and internal dithering of decoded GIF and JPG images. The screen refresh problem that plagued earlier versions is also much alleviated.

Drag and drop features in IBrowse have always been impressive, but now they are even more informative thanks to MUI 3.8. The URL is actually listed and the ability to drag and drop URLs direct from off the page is groovy.

Finally, retrieving pages from the cache, is faster than ever. For more details visit HiSoft's website at **www.hisoft.co.uk** or call on 01525 718181.

Net Corner

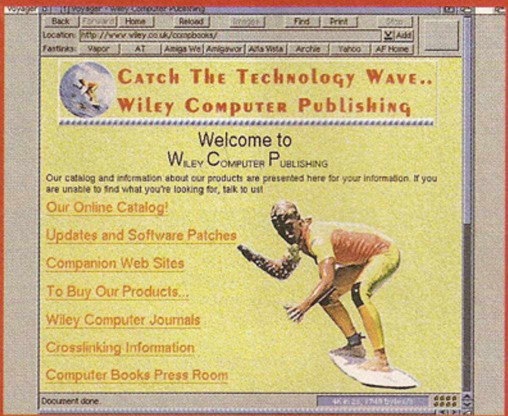
WIRENET BOOSTS SPACE

Wirenet, the first UK Amiga-only ISP, have announced that they will be increasing the amount of web space available to their clients, to a quite massive 5Mb.

For more information telephone Neil Bothwick at Wirenet Amiga Internet on 01925 496482, email info@wirenet.u-net.com or point your web browser at http://www.wirenet.u-net.com

WILEY ON THE WEB

The ubiquitous publishers of educational and scientific books in all disciplines have once again turned their attention to the web. This time there is a twist though. Instead of being a book about how to code HTML, or a directory, this one is a sort of history book come adventure tale. Titled *Architects of the web: 1000 days that built the future of business* (catchy, eh), the book charts the growth of the web and includes material from Marc Anderson (one of the creators of *Mosaic*), Jerry Yang (the man behind Yahoo) and Jim Clark (formerly of Silicon Graphics, one of the founders of Netscape). The book costs £19.99 in hardback, but why not check out the Wiley web site for some more info first. Point your browser at: http://www.wiley.co.uk



Wiley are using the web to promote their book about the history of the web – talk about recursion.

LEARN THE LINGO

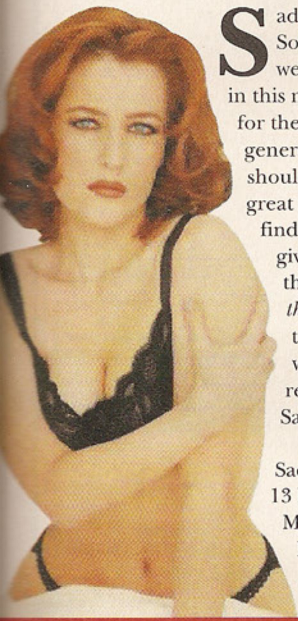
Yes, it had to come. No more "écoutez et repeté" along with records and tapes – now you can learn to order small garden molluscs fried in garlic with a side order of amphibian limbs via the Internet.

This subscription service provides a personally tailored language course suitable for just about everyone, and is accompanied by discussions of French history, geography and er, culture. Check out the web address at www.elok.com

HARD HACKS

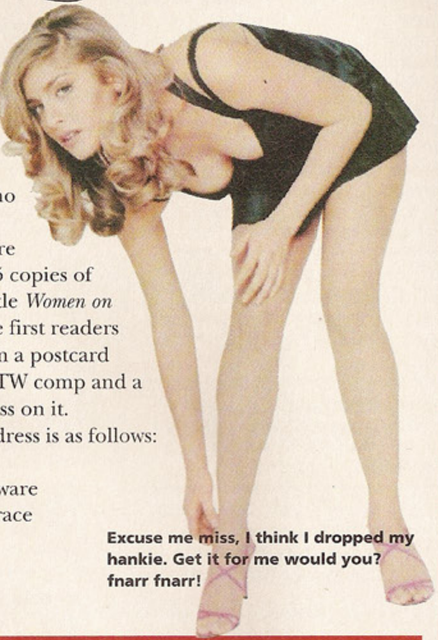
If you are not afraid of taking your beloved Amiga to bits, or it's in a bit of a bad way and needs some major repairs, you may be interested in this

Sadeness make you happy!



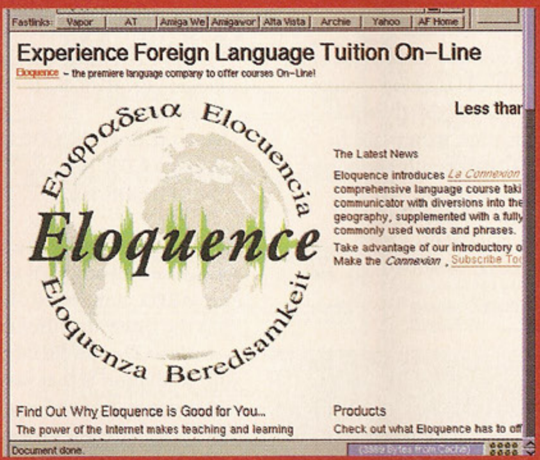
Sadeness Software are well-known in this magazine for their generosity, so it should come as no great surprise to find that they are giving away 25 copies of their latest title *Women on the Web* to the first readers to send them a postcard with AFWOTW comp and a return address on it. Sadeness' address is as follows:

Sadeness Software
13 Russell Terrace
Mundesley
Norfolk
NR11 8LJ



Excuse me miss, I think I dropped my hankie. Get it for me would you? fnarr fnarr!

site. Although small at the moment, it contains lots of info for those who believe happiness is a warm soldering iron. Break out the tool kit and visit: **www.nyx.net/~rdavis/amigahints.html**

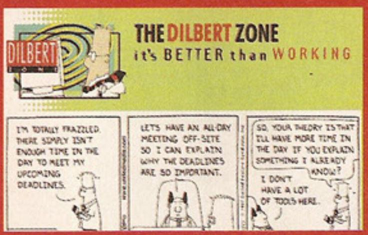


I lurve zee leettle girlz and all that courtesy of www.elok.com

IT'S BETTER THAN WORKING

Why not get away from it all for a bit? If life is getting you down, there are few places to visit that could possibly cheer you up more than the United Media comics site. There are plenty of your favourite comic strips represented here, from Dilbert to robot man, and there are plenty of things to buy and win too! Check it out: **www.unitedmedia.com/comics/**

Finally, if you want to recommend something for Net corner, mail us at: amformat@futurenet.co.uk. Remember to put Netcorner in the subject line.



Set your home page to the Dilbert Zone and start every day with a wry giggle.

The Bradford Column



It's been another mixed month for the Amiga. To get it over with, first, the bad news: long-time specialist Amiga distributor SDL have gone into Administration. While this will not have an immediate effect on the Amiga itself, when it does eventually re-appear it will need as many of its old buddies as possible to gather round and help it rejoin the party. Of course, there is every possibility that SDL as a company will be sold as a going concern, but its new owners may not have the strong sense of loyalty to the machine as its existing ones. So, not good news.

What is good news though is the World Of Amiga show, being held on the 17th and 18th of May (I'm sure *AF* will tell you all the details). Not just for all the obvious reasons, but also because there will be a new Amiga on display. Yes, you read that right.

"The Power Amiga, as it has been christened, is the most powerful Amiga ever."

The Power Amiga, as it has been christened, is the most powerful Amiga ever. It has a standard AGA motherboard but with a 64-bit chipset, 3D capabilities, true colour 64-bit graphics, an '060 processor, hard drive, monitor and 22Mb of RAM. The price has yet to be confirmed at the time of writing but according to Direct Software it will be 'Well under £2,000.'

How do they know, you may be wondering. Well, Direct Software is the company behind the Power Amiga. You've just got to admire them: they attracted many a puzzled glance when they opened an Amiga-only retail outlet in Northampton last year but, apparently, the store is thriving. Now they're not only exhibiting at WOA, they're producing the machine that Amiga owners have been crying out for (orders will be taken at the show).

Bringing such a machine to market is a staggeringly ambitious plan, but I'm sure I won't be the only one attending the event just to catch a glimpse of the beast. And to meet up with all our old chums too, of course. See you there.

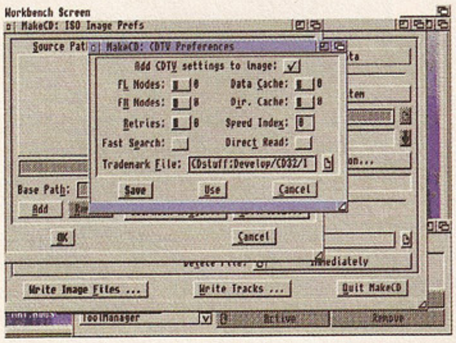
Dale Bradford's last brush with real power was when he fell off his Superdream a decade or two ago. The opinions expressed here are his, and not necessarily those of the all-powerful *Amiga Format*.

"One of the absolute requirements of a good hash function, is that it can handle these collisions in a foolproof way."

Paul Overaa is making a complete hash of it!

ADVANCED AREXX PAGE 84

Me make CD too!



MakeCD really sets the standards for CD-ROM creation on the Amiga.

MakeCD is a CD-ROM writing tool for CD-R drives which is wowing them in Germany. Version 2 is now available with the following new features:

- Try before buying! An almost unlimited version is available on our CD.
- Supports for lots of different CD-R drives.
- Writes data and audio CDs.
- Multivolume support.
- Direct CD copier function.
- Data CDs can be written "on the fly".
- More Robust meaning less trashed CD-Rs.
- Amiga protection bits and file comments on data CDs.
- Support for ISO9660, Rock Ridge, CDTV and CD[32].
- Relatively low memory requirement.
- Font sensitive, style guide compliant, localised GUI with online help.
- Compatible (tested on a lot of Amigas).
- ISO image can be created on block-oriented device (e.g. hard disk).

The authors of *MakeCD* have incorporated a test mode which allows you to test the performance of your system before writing. This minimises the probability of damaging a CD-R. There is also a repair mode for Philips and compatible CD writers, and best of all, *MakeCD* works asynchronously so you can carry on with work while your CD is being written.

MakeCD supports a lot of different CD writers and drivers for other writers are in development. The list of currently supported drives is as follows:

Grundig CDR1001PW
HP SureStore 4020i
Mitsumi CDR 2401
Philips CDD 2000
Philips CDD 2600 (beta)
Plextor PX-R24CS(i)
Ricoh 1420C
Smart & Friendly CDR1004
Yamaha CDR 100
Yamaha CDR 102

Besides these, *MakeCD* supports a lot of further CD writers all of which are compatible to one of the writers mentioned above. If in doubt, try it with the freely distributable version of *MakeCD*.

MakeCD costs 80DM (roughly £30). The only limitation is that you can't use your CDs for commercial products. Check out the AFCD12:-Seriously_Amiga-/commercial/ drawer and find out how to contact the authors.

Amiga Format's Top 10 Reasons to... get Directory Opus

1 Organising your hard drive has never been easier than with a file manager and there is none better than *Directory Opus*.

2 Dealing with LHA, LZX and DMS files has always been a bit of a pain if you don't know how to use the shell, but *DOpus* can automatically decompress these files to the destination of your choice, whether it be floppy, RAM or another part of your hard drive.

3 If you've got a lot of hard drive space, finding files can sometimes be a bit of a nightmare, but *DOpus* gives you the ability to hunt for files without resorting to another third party program.

4 *Directory Opus* has the ability to make shortcuts to programs and files making them easy to run, no matter how deep inside your hard drive's directory structure they are.

5 Viewing all sorts of pictures, playing sounds, viewing text files and hearing MODs is easy in *Directory Opus*, just double click on a file.

6 If you're an Internet user, *DOpus*' FTP commands enables servers half way across the world to appear on your screen as though they were attached directly to your machine.



Pictures, text and files at your fingertips with *Directory Opus 5.5*.

7 User-definable buttons mean you can automate certain functions that you use regularly, or even set up buttons to run programs, like having a dock.

8 Completely multitasking behaviour means you don't have to wait for something to be copied before you can do anything else, unlike Workbench.

9 Unlike Workbench, Directory Opus will ask you if you want to copy over existing files and give you the creation dates and versions of both files to help you decide.

10 Jonathan Potter, Greg Perry and all the other people who contributed to *DOpus* really need the cash!

GOT A NEW TRACKSUIT?

Alternative software are launching an update to their popular football management sim *Tracksuit Manager 2*. The 1997 update disk for *Tracksuit Manager 2* contains the most up-to-date and accurate information possible to enable you to battle for supremacy in cup or league football. Some of the new features for TM2 include:

- **All English League and Cup competitions**
- **All the main European Cup competitions**
- **Talent and youth scouts for finding new footballing expertise in England and Europe**
- **Player fining for misconduct or poor play**
- **Loan players and pre-season friendlies**



The *Tracksuit Manager 2* update disk should be available by the time you read this and will cost £9.99 from all suppliers. If you are having trouble finding it, call Alternative on 01977 797777.

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2. (1) Aminet 16
3. (-) Amiga CD 1-2/97
4. (2) Meeting Pearls 4
5. (4) Aminet Set 3
6. (3) Aminet 15
7. (-) Amiga Format CD10
8. (17) Aminet Set 2
9. (13) Aminet Set 1
10. (11) Amiga Developer CD 1.1

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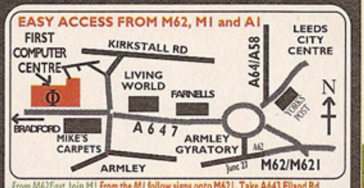
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From M62East Join M1 From the M1 follow signs onto M621. Take A643 Elland Rd turnoff from M621. Follow signs for A58. This merges with the Armley gyratory From M62West Junction 27, A62 to Armley gyratory. From the A1 take the turnoff for A64. This merges with the A58 (by-passing town centre) which meets Armley gyratory.



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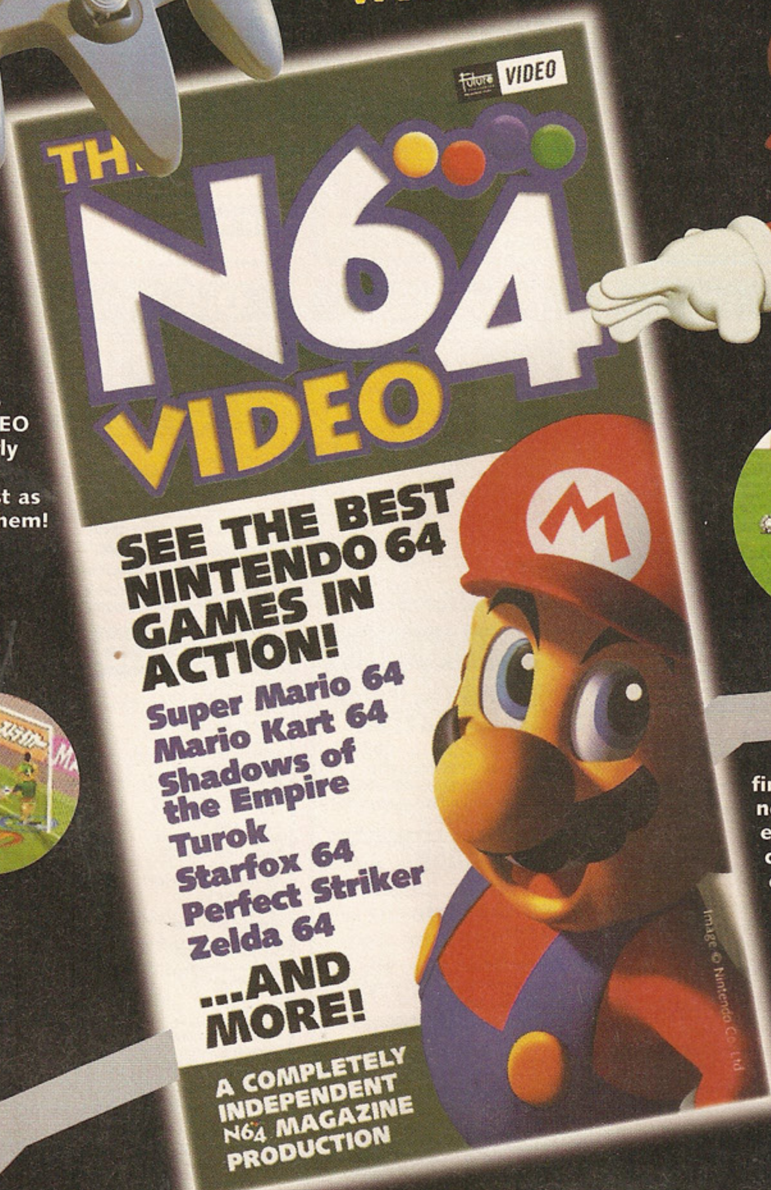


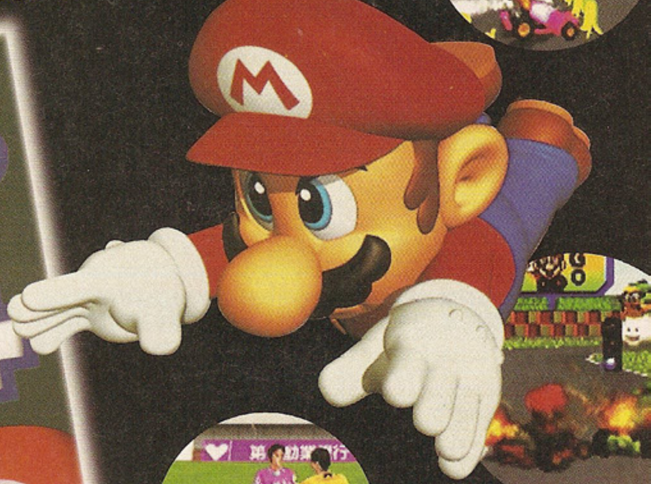
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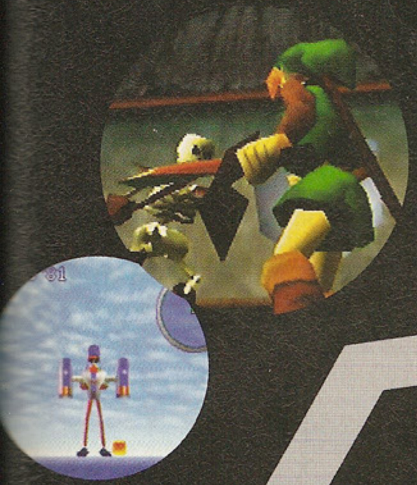
As you'll know if you've been lucky enough to track one down, the Nintendo 64 is superb machine, reaching stratospheric new heights of 3D graphical sophistication and fun. So no ordinary games mag is going to be enough to keep its fans up to date. That's where N64 Magazine comes in...

Every page of N64 Magazine is

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N64 video...





stuffed with pictures of, and information about, the latest Nintendo 64 releases. Each month we'll be pulling apart fantastic games like *Super Mario 64*, *Starfox 64* and *Blast Corps*, exposing their secrets and reviewing them ruthlessly. Through our contacts in Japan and the US we'll be bringing you pictures of exciting new games as soon as they're announced. Our fanatical team – Jonathan Davies, James Ashton, Tim Weaver, Zy Nicholson and Wil Overton – will be keeping N64's readers informed of everything that happens in the world of Nintendo 64.

The first issue of N64 Magazine, with a free video, goes on sale on Thursday 27th of March. We'll see you then!



Mario images © Nintendo Co. Ltd.

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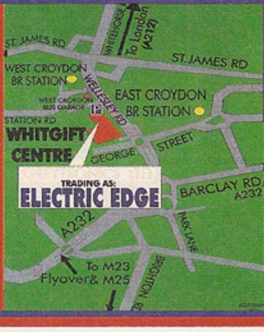
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Using PPaint 6.4

Crammed with features, yet incredibly easy to master – *Personal Paint* really does hold something for everyone!

Without a doubt, *Personal Paint* is one of the most advanced graphics programs available for the Amiga today. Carrying on the tradition of *Deluxe Paint*, *Personal Paint* is designed specifically to take full advantage of all the Amiga's many graphics modes and animation facilities. It's a multi-purpose program, aimed at all Amiga users from novice to expert alike.

Artists will love the easy-to-use drawing and painting tools, graphics fans will spend hours playing with the image processing options, and Amiga nuts will appreciate the powerful screen grabbing and palette management control. Animators can enjoy the advanced story-boarding and smooth playback facilities. Even Internet users are catered for, with support for a wide range of file formats.

FAST AND EFFICIENT

Personal Paint uses unique memory management routines to make the most of your Amiga's hardware. It's written to be fast and efficient and you will be pushed to find a quicker and more powerful paint program on any platform.

Although crammed with features it's extremely easy to use. When it first loads, you'll be see an empty canvas and a Tool Bar down the left hand side of the screen. By holding down the left mouse button, you can scribble on the canvas. Holding down the right mouse button will erase your doodles.

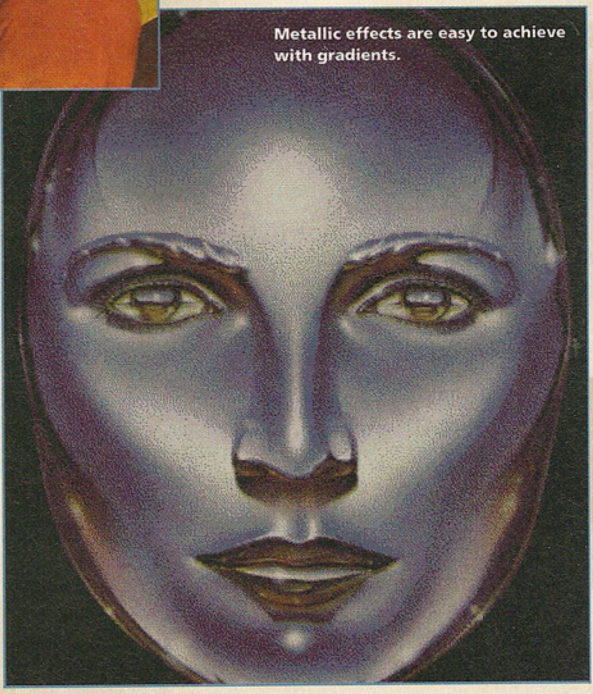
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What's my mum doing on these pages?



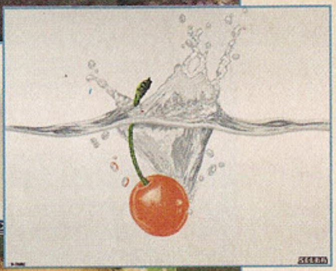




Metallic effects are easy to achieve with gradients.



PPaint can create and edit all sorts of different styles of pictures.





PERSONAL PAINT'S FEATURES

Some of the special features of *Personal Paint 6.4*, include:

- Animation, including storyboarding, improved compression, multiple palettes and frame-by-frame timing.
- Support for Anim 5, 7, and 8 formats.
- Unique memory management with automatic "virtual memory" to make the most of your Amiga.
- Image processing features.
- Create Three-dimensional SIRDS and "Magic Eye" images.
- Support for graphics cards such as Picasso, CyberGraphX and so on, including animation.
- Fast and accurate conversion of 24-bit images to 256-colours or less.
- Support for external plug-in modules to make extensions easy.
- Drag and Drop support for automatically loading images from Workbench.
- Supplied with new printer drivers for superior colour output.

THE TOOL BAR

Although *Personal Paint* makes use of menus like any Amiga program, the Tool Bar lets you quickly and easily select the most important features. It's important to note that there are several ways of selecting the tools. The easiest option is to click on it with the left mouse button. Sometimes a small dot will appear: this means there is a second option if you click again. Most of the tools have further options which are accessed by clicking with the right mouse button.

Here's a brief look at the options on the Tool Bar. Remember that these aren't the only options – there are dozens more available from the pull-down menu.

1 Here you select the brush, which is the shape you use to draw on the screen using all the tools that follow. Click with the left mouse button to select the shape of the brush you want to use. If you click with the right mouse button, you can expand or contract the shape.

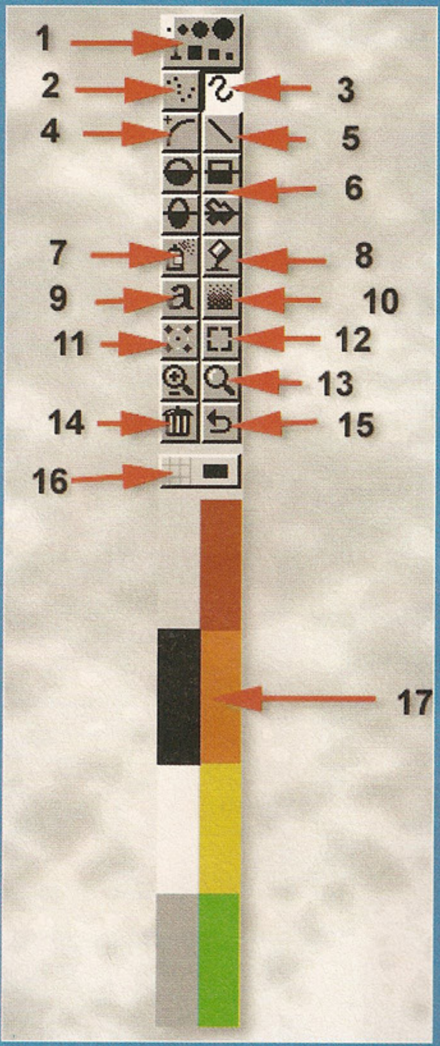
Personal Paint also allows you to clip out a brush from the image, or load a brush clip from disk. *Personal Paint* will store up to nine brushes, and right-clicking on the number will allow you to change between them.

2 Dotted freehand mode is the simplest painting mode. Select it and you can scribble over the image in the currently selected colours. As with all the painting tools, hold down SHIFT to constrain the movement to vertical or horizontal directions.

3 Continuous freehand mode allows you to draw solid lines, rather than dots. There is a hidden option if you click it again: the tool will allow you to draw an outline which is then filled. Clicking with the right mouse button in the top half opens the line drawing options. Clicking in the bottom half brings up the fill style requestor.

4 The Curve tool lets you easily draw smooth curves and arcs. Click once to start the line. Keep the button held down and point. When you release the mouse, you'll see a straight line appear in red, along with several little "plus" signs. Click and drag the plus signs to alter the curve. Click with the right mouse button when you've finished.

5 For straight lines use this tool. It works using the same click-drag-release approach. Using the left mouse button will draw a line, using the right will erase it. Remember that the SHIFT keys will force a perfectly vertical or horizontal line.



6 These four tools make it easy to draw pre-defined shapes, such as Circles, Rectangles, Ellipses or any Polygon (multi-sided shape). As with the Continuous Curve tool, one click will produce an outline, two will switch to filled shapes.

7 The Airbrush tool will "spray" dots onto the image. It's effective for shading or drawing shapes which don't have perfectly straight edges. Click with the right button for options.

8 Fill will flood an area with the current colour. You can flood the entire screen, or draw an outline and fill only that. Click with the right mouse button for more options.

9 Select the Text Tool by clicking on the letter "a". Position the cursor on screen and start typing. Click the right mouse button and, after a pause, a list of the available fonts on your system will be created. This lets you pick just the right font and size for your text.

10 Image Processing allows you to quickly make changes to your picture by applying special filters. When you first select it, you'll need to pick a filter from the list – try Blur High. You can then select an area of the image to apply the filter to.

11 Snap to Grid keeps all your lines and drawings limited to an invisible grid overlaying the image. It's very useful when you need to align several objects, or want to draw shapes with regular edges. Click with the right mouse button to alter the size of the grid.

12 Define brush. Use this tool to copy a section from your image. Click with the left mouse button, drag and let go – instead of a dot or square, you'll now have a brush which looks like the area you just selected. Do the same with the right button, and you'll "cut" the brush from the screen. Remember, you can have lots of different brushes by right-clicking on the number in the brush tool.

13 Use the Magnify tools when you need to zoom in for fine detail. Click the Magnifying Glass to switch on magnify mode – you'll need to select an area of the screen to zoom in on. You can use the +/- button to zoom in or out, using the left and right mouse buttons.

14 The Trashcan clears the image. It doesn't ask first, but that's OK because if you make a mistake them all is not lost...

15 Nobody's perfect. And when you've made that inevitable mistake all you need to do is click here on the UNDO button and your last action will be undone. Click it again if you then need to redo what you've just undone.

16 Click here when you need to sample a colour from the image. This lets you quickly determine which colour is used where in your picture.

17 Colour palette. The colours you draw with are selected here. All the colours which are possible with the graphics mode you are using are displayed here. Click on one with the left mouse button, and any marks you make with the brush will be in this colour. You can also select a background colour using the right mouse button

TOP TIP
PICKING A COLOUR OFF SCREEN

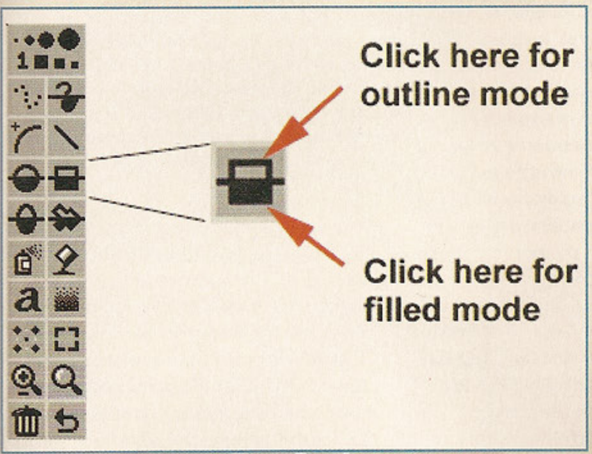
If you quickly need to select a colour already used in an image, click on the central rectangle above the colour palette and then click on the colour on-screen. Select the outer rectangle to pick the background colour from the screen.

TOP TIP
SEE MORE OF THE SCREEN

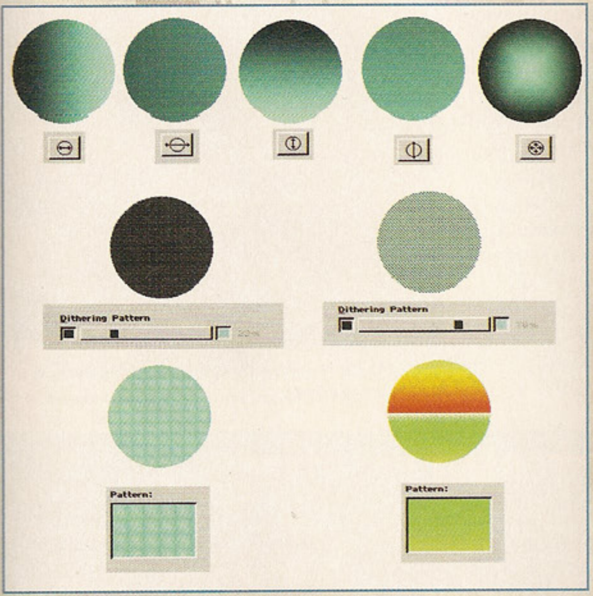
If the Toolbar or screen title are obscuring your view, press F9 or F10 to toggle them on or off. You can also drag the hidden portions of the screen into view by holding with the ALT key whilst left clicking and moving the mouse. If you have a three-button mouse, use the third button instead.

Textured fills & Image Processing

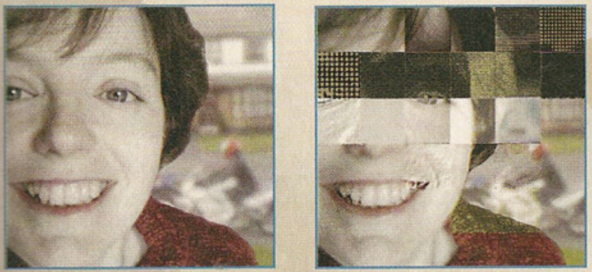
TOP TIP
CAN'T FIND THE RIGHT COLOUR?
If the colour you want doesn't occur in the Toolbar, you can select your own from the colour palette. All you have to do is press "p" and you can adjust the Red, Green and Blue components to make your chosen colour. Remember that any occurrences of the selected colour will also change.



Watch where you click – it makes a difference to the tool.



From top to bottom: the five gradient fills, two different dithered patterns, and two different brush patterns.



Before and after. The image on the right has been processed with a variety of *Personal Paint*'s digital filters.

Many of *Personal Paint*'s painting tools can be used either to create an outline, or to create a solid shape – it's up to you. The mode used depends on where, or how many times, you click on the tool.

PPaint won't restrict you to fills of a single, solid colour. When you click on the lower half of the tool using the right mouse button, you'll bring up the "Area Settings" window and from this requestor, you can pick from three different ways of filling a shape: solid (the default), gradient or pattern. Click in the cycle gadget at the top of the screen to choose. You can now click on the colour palette in the tool bar using the left and right mouse buttons to select the colours you'll use.

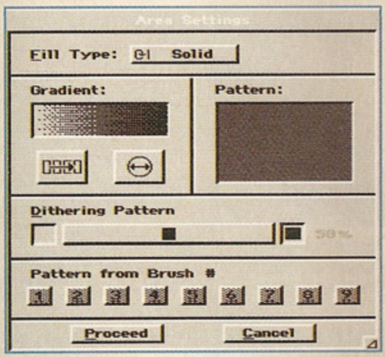
At the top left, is the range of colours which the gradient fill will use. Clicking in the gadget beneath this to the left toggles between automatic and manual smoothing. To the right is the gradient mode: there are five different gradients: two horizontal, two vertical and a shape dependent fill. The two different modes use the size of the shape, and the size of the screen to determine the shading.

The pattern fill can work in two ways: either using a dither you define using the slider bar, or using a pattern from a previously defined brush. Before you use the fill, use the Define Brush to snip a little part of the image: you can then use this pattern to fill a shape. The numbers from 1 to 9 are to select the number of the brush.

One of *PPaint*'s most powerful features is its range of digital filters. With a few mouse clicks you can transform an image by applying a special effect such as "Watercolour", or combining several images together.

Click on the Image Processing tool with the right mouse button to select the processing style. Click the tool with the left button, and the next area you define on the image will be passed through the filter. Most of the filters operate on the main image, however some will either act on the brush or with the alternative image (press "j" to swap between them).

You can edit the existing filters and define your own. Some work best on simple images, others with detailed images like photographs. Just experiment: you can always use the Undo tool to restore your original.



The Area Settings requestor, where you can choose the fill pattern you are using.

Continued overleaf ➡

PROJECT – PLAYING WITH TEXT

1 Pick a screen mode with at least 32 colours. Using the Palette Tool (press "p") create a range of colours from light to dark. To do this, click on the light colour, then the Range tool, then the dark colour. This should create a good set of shades.

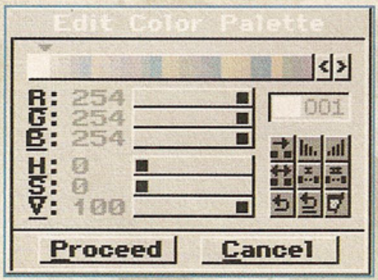
2 Now pick a good, bold font in a large size and type your message onto the screen using a dark colour. When you first list your fonts, there may be a long delay as the program searches through your font directories.

3 Copy the text as a brush, this will store it for safe keeping. You can stop it following your cursor by clicking in the brush area of the Toolbar and picking another number. Now apply an image processing filter: Rise High is a good one, as it gives the text a 3D appearance.

4 Now use the Fill tool with a shape dependent gradient fill to add a little interest to the insides of the letters. For a final touch, take the brush you kept and use Image Processing to blur it (press "A" to process a brush), and paste the new text on top of it for a drop-shadow effect.

Palette Processing and 3D pictures

No matter which graphics mode you select from the "Image Format" menu option, there will always be a finite number of colours available. If your Amiga has the AGA chipset (like all A1200's) you'll be able to open a screen with up to 256-colours. Each of these colours can be changed – all you need to do is bring up the palette requestor, select your colour and then adjust the Red, Green and Blue components or the Hue, Saturation and Lightness settings.



The limited number of colours can be a problem when you load in an image saved with more colours: for example, a JPEG image can have up to 16 million different colours. The good news is that *Personal Paint* will automatically and intelligently reduce the number of colours of any incoming image, to suit the current screen mode.

CLEVER STUFF

Using the "Reduce Colours" option from the "Colours" menu, you can also force *Personal Paint* to reduce the number of colours in an image. From the "Settings" menu, you can choose either Qualitative or Quantitative reduction schemes, and switch on several types of dithering. It's important to pick the most suitable mode for your image, so experiment with these settings.


Qualitative reduction


Quantitative reduction


Quantitative reduction with FS dithering

However, the really clever stuff comes into play when you want to load more than one image, each with their own colour palettes, and display them on the one screen. For example, if you have a picture already loaded, and want to combine it with another image, load it as a brush. You can then use the "Brush" menu option "Colour/Remap", and the second image will be converted to use the same colours as the first image. There are other ways to achieve this: see the project on this page.

TOP TIP

NEED MORE SPACE?

If you need to work on two images at once, perhaps to create an element to add to your image, press "j" to flick to a new screen. The new screen can have it's own resolution and colours, but brushes copied from one screen to the other can be re-mapped if necessary.

3D FOR FREE!

Remember last year when everyone was cross-eyed looking at those 3D dot patterns? *Personal Paint* will help you start the craze all over again, with its easy to use SIRDS option. Just select a screen mode with several shades of grey. Now draw some shapes in the different colours: the darker the colour, the further into the screen the pattern will appear. It's best to stick to simple shapes, such as squares or single letters, to start with.

Now flick to the secondary screen (press "j") and select a similar screen mode. All you have to do now is use the Image Processing option "SIRDS" and your 3D image will be created. A similar 3D mode called SIPS is available: this will use the contents of the brush to create the 3D effect, rather than random dots.


Squint here: no really, there is something here. Can you see what?

PROJECT: LOADING FOUR IMAGES WITH DIFFERENT PALETTES



1 Create a graphics mode with a large number of colours: 256 if you can. Now load in a brush, there are several good examples included in the *PPaint* distribution. Each picture will have it's own palette, and may contain a different number of colours.



2 Select a second brush, and load in a second image. You can select the brush number using the numeric keypad. Load in a third and fourth image: you may need more than 1Mb RAM free for this. If you displayed all the brushes, they'd look like this.



3 From the "Colour" menu, select the "Merge" option. You should click on all the brush numbers you wish to use, and select "Current" so that the current screen palette is used. The Merge could take several minutes.



4 Once the Merge is complete, each brush has been given a new palette, making the most of all the available colours. Even when used in the one image, as here where they are halved in sized (press "h") and stamped down, they all look perfect.

Animation

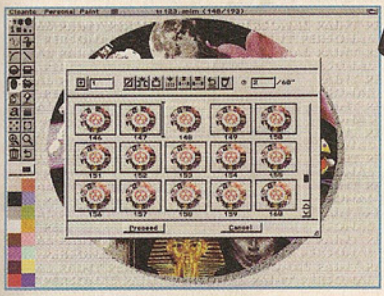
When you display several images one after the other, you get animation. With *PPaint* you can quickly create your own cartoons and animated diagrams with sophisticated colour and timing operations. As *Personal Paint*'s internal animation system is so advanced, you may find that if you load in an existing animation and re-save it, the new file will be smaller and playback more smoothly than the original. You can even animate SIRDS, to create moving three dimensional images.

Animations can be played back by *PPaint*, without loading them first. This makes it possible for HAM and HAM8 animations to be displayed, even though the program does not normally display these modes.

None of the Animation tools are available from the Toolbar – they are all accessed from the pull-down "Animation" menu. From this menu, you can load, save and play anims to and from disk. You can also open the storyboard, which creates a miniature list of all the frames available.

Each frame in *PPaint* can have its own colour palette and timing information. This makes it easy to create sequences which fade in or out, or pause momentarily without taking up huge amounts of memory. The animations you save can be replayed from *PPaint*, or other players such as the freely distributable "Viewtek".

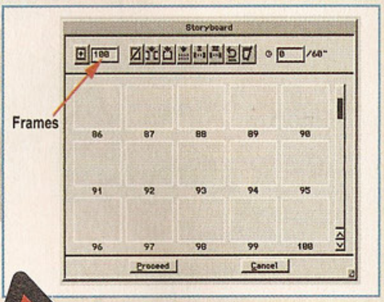
Brushes can also be animated: these are the so-called "AnimBrushes". An AnimBrush is similar to any other brush in that it can be stamped on the screen, but each brush contains many images.



The storyboard allows quick access to each frame in the animation.

DIY MOVIES

The first step in creating your own animation is to decide how many frames you will be using. You can always change this number later on, but you'll need to enter something to get started. You can either enter the number into the Storyboard, or keep pressing "7" to add one frame at a time.



Enter the number of frames into this box.

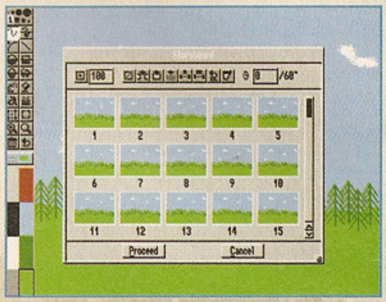
TOP TIP: CHANGING GRAPHICS MODES

You're not stuck with the graphics mode which *PPaint* opens with. You can alter the screen mode to provide different resolutions, more colours or a combination. You can also change screen modes in the middle of creating a picture. Use "Image Format" from the Project menu to select the graphics mode.

TOP TIP: PLAYING WITH BRUSHES

Once you've clipped a brush from an image, you can manipulate it in many ways. For example, press "Z" to rotate it, or the plus and minus keys to change its shape. The "x" and "y" keys will flip it horizontally or vertically, while "H" and "h" will double and halve it in size.

Start off by drawing a background frame, and all your subsequent images will get it, free of charge.



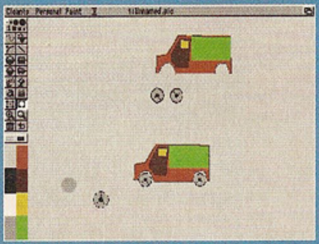
You can then start drawing. When you want to move to the next frame, press "2" and when you want to move back a frame, press "1". Pressing "4" will start the animation. You can build up an entire series of images, which will appear to move when shown in order.

If you want to create an animation with the same background, draw this before creating any frames. Make sure you select a palette which has enough colours for your background, and any characters which will appear on it. Then increase the number of frames using the storyboard, and all the new frames will have your background included. In fact, when you create any new frame it will be a copy of the frame currently displayed.

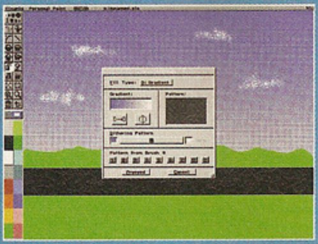
When saving your animation, you have a choice: ANIM5 is the most widely supported format, although if you have a 68020 or better, ANIM7 can be faster. The only problem is that ANIM7 files are usually larger than ANIM5.

Next Month: More tips and projects next issue

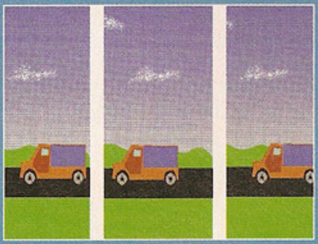
PROJECT: CREATING A (SAD) ANIMATION



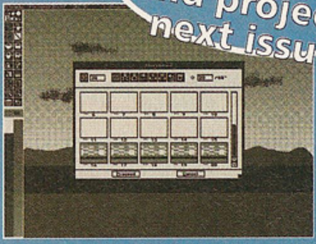
1 First create the characters for your animation. OK, so Walt Disney has nothing to fear – but this is for illustration purposes only, all right? Notice how the wheels are separate from the vehicle. (Yes, that's how it is supposed to be.)



2 Move to the alternative screen, and create a background. Here I've used the gradient fill for the sky: it will look smooth if the animation is recorded to video. Open the storyboard and enter the number of frames your production will take.



3 Now copy the van brush, and paste it over the landscape. After every paste, move to the next frame and then move the van a little to the left. Do the same with the wheels, but just before stamping them down, press the "z" key to rotate them.



4 When the scene has finished, it's time to fade out. Each frame can have a different pallet, so gradually drag the colours down to black. From the storyboard window, you can also enter a time for each frame to appear on screen. 60 will keep the same image steady for a second.

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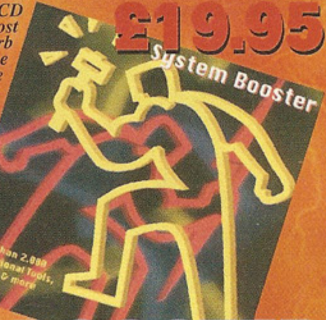


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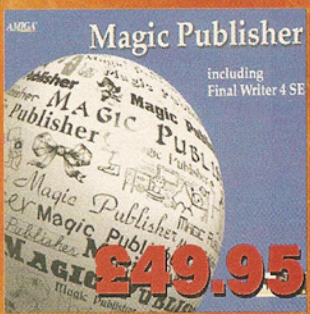
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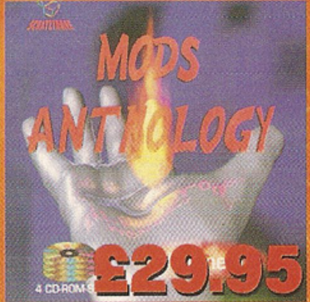
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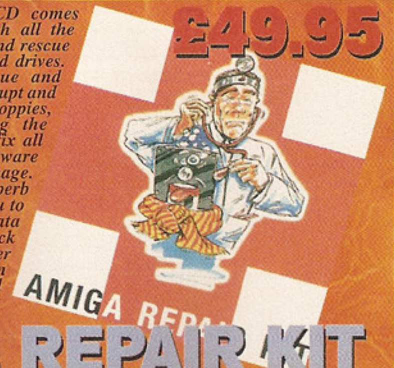


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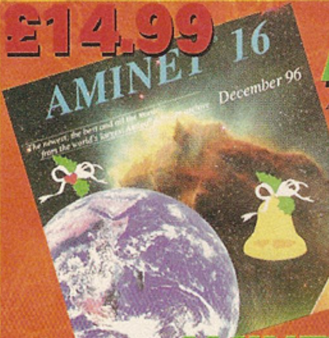


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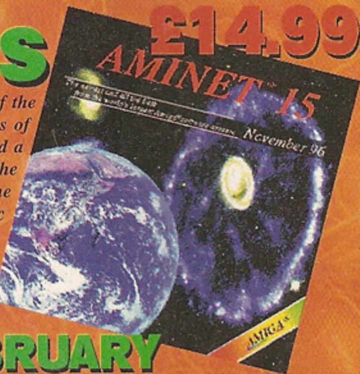


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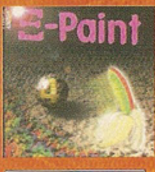
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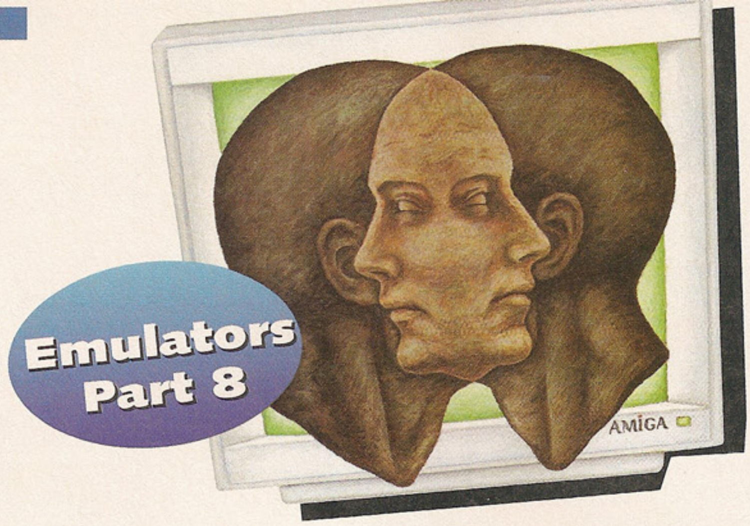
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PC EMULATION

100 million lemmings can't be wrong! Simon Goodwin reports on the history of, and the latest advances in, the Amiga's emulation of the PC.

Software for so-called 'IBM Compatible' or 'PC' computers is everywhere, but Amigas cannot run PC software. For some this is a saving grace, but many consider it a weakness: for all the faults of the PC, both in design and in implementation, there are some really good programs which will only run on the so-called 'Wintel' platform.

The ideal solution would be the best of both worlds – a machine that can run both Amiga and PC software. Commodore chased this holy grail for 15 years, trying both hardware and software emulators, but it proved to be a tough nut to crack.

EARLY SOFTWARE EMULATORS

The *Cross-DOS* device, bundled with modern Amigas, is the last relic of *Cross-PC*, an early software PC emulator. The rival *Transformer* won Commodore's endorsement, although it gave the A500 less than a tenth the speed of an original, slow IBM PC.

IBeM is now found on Aminet and runs on more modern Amigas, but it's still pathetically slow by modern standards. Chris Hames' original *PC-Task* begat *PC-Task 2*, with versions for 68000 and 68010 processors and an optimised version for 32-bit Amigas, at last capable of rivalling 'real PC' speeds.

Meanwhile, the PC world moved on. These were emulators for the original PC, with its crude almost-16-bit processor from the 1970s. *PC-Task* was the first Amiga emulator to support the programs for later 'AT' versions of the PC, but by the time version 3 arrived in 1995 the Intel 286 it emulated was obsolete and the 386 and 486 were scuttling, cockroach like, increasingly quickly after it.

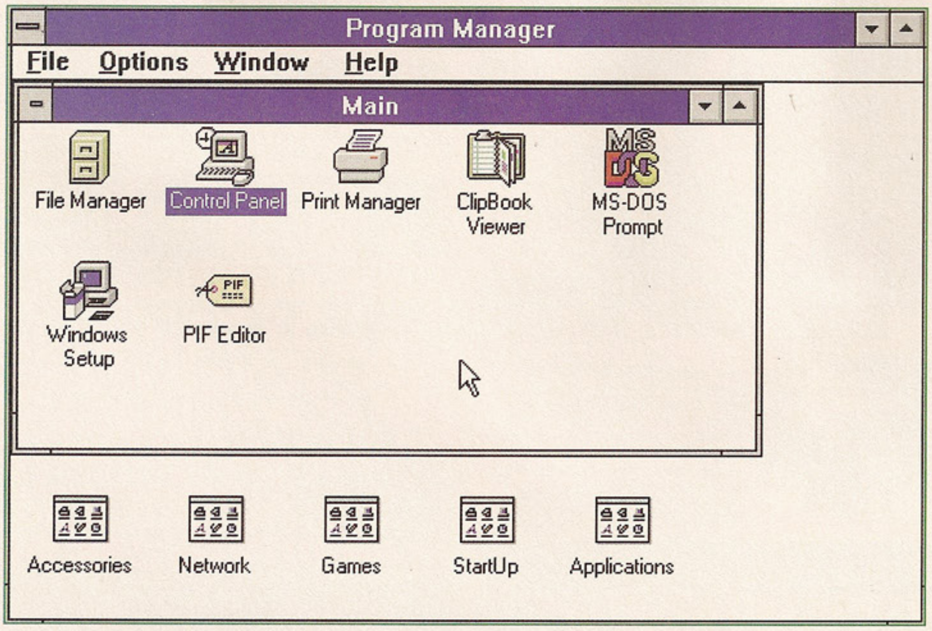
PC Task 3 needs at least a 68020, yet it barely runs Windows 3 and is more compatible with Windows 2, which was designed for a 286. But Windows 2 doesn't do much – except make the Atari ST desktop look versatile! *PC Task 3* comes in two versions: the 'Turbo' one uses four bytes of memory for every one available to the PC and delivers noticeably more speed, but it is still rarely enough.

Speeds achieved by *PC Task 3* vary from that of a 12MHz AT to the equivalent of a 25MHz AT on a Cyberstorm 68060 with fast memory. That's ten years behind the pace, and slower than a real 20MHz 386 which you might find at a boot sale or in a skip. New emulators can go two or three times faster – and emulate modern 486 and Pentium processors too.

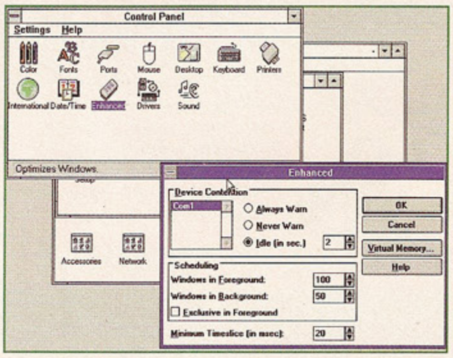
This feature discusses PC programs and processors, as well as software and hardware PC emulation. But first we need to know what a PC is, and how it differs from an Amiga.

PCS AND AMIGAS

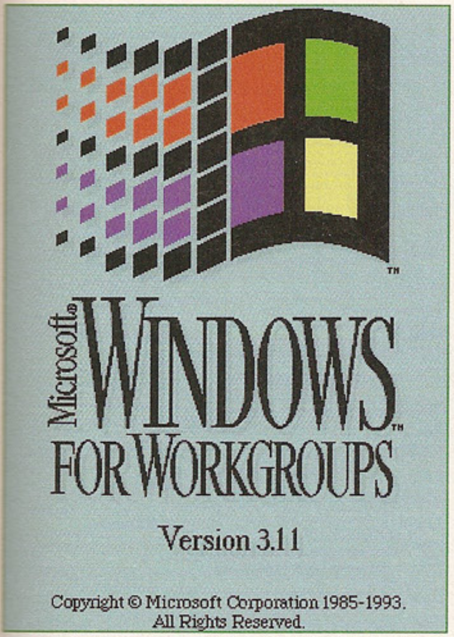
The differences between Amigas and PCs are fundamental and crucial. To generalise them,



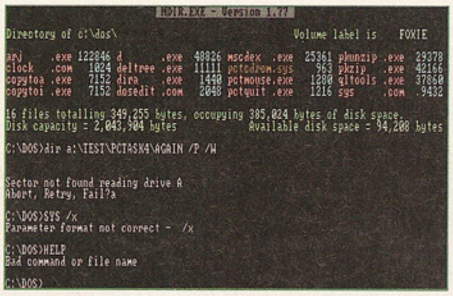
After a few hours' hard installation, this is the Windows 3 desktop running on an Amiga.



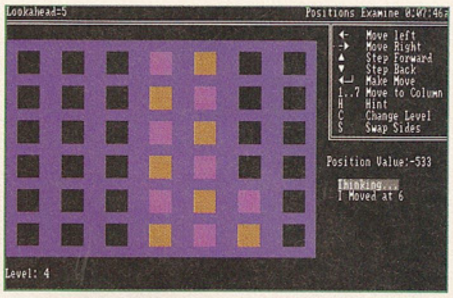
Windows 3.11 has 'preference' tools similar to those found on the Amiga.



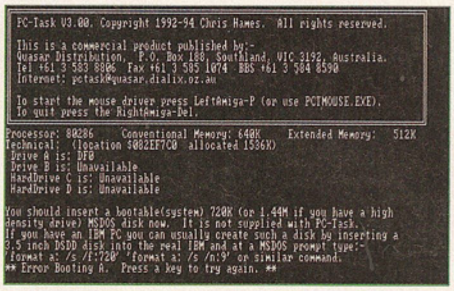
Windows 3.11 – the most recent version that runs with *PC-Task 4*.



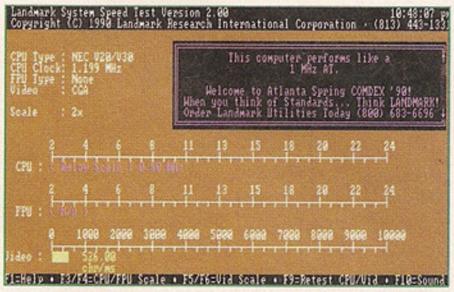
This typical MS-DOS dialogue is actually a bit more colourful than the average MS-DOS screen.



Old DOS games like *Connect 4*, here, are the limit for 68000-based Amigas.



This is how *PC-Task* announces its arrival to the world.



IBeM notches up the 'performance' of a 1MHz PC on an A4000/030!

the Amiga was designed, whereas PCs have have merely evolved.

Commodore and Amiga Technologies made Amiga hardware and software documentation public and widely available. Freely distributable commodities, datatypes and handlers mean that every Amiga can be a custom machine.

Packages can be small because there's no need to provide converters, drivers, memory handlers and other bits and pieces that must appear in every DOS or Windows installation. This profligacy doesn't just take up space – it actually promotes incompatibility.

PC BUNDLES

PC packages come on wads of disks – sometimes even wads of CDs – bloated with 'drivers' for manifold hardware configurations, display adapters, file formats and even printers. Conflicts are legendary. Even if programs use the new device-independent methods expensively added to Windows, they can still get clobbered if a DOS program grabs the hardware without asking.

PC documentation has to be much bulkier than that for comparable Amiga packages, because it must document the whole 'world' within the package, not just the new things it can do. Here the Amiga steers a course between that of the Mac, with its preset interface, and the PC, where anything goes – at least as far as Windows is concerned. The Amiga is not as consistent as the Mac, but is more open and hence more configurable.

When you turn on an Amiga, it's usable from the start. You can configure hardware with the 'early startup' menu, enter commands, swap screens and so forth. The essential system software is in the Kickstart ROM, including enough user interface code to make the machine instantly usable (if not actually at all useful, without any applications running). Expansions link themselves automatically and are immediately available.

PCs contain nothing but the 'BIOS' – Basic Input/Output System – a set of machine code routines that blur the difference between different hardware implementations. There's no disk operating system, no way to enter commands, and no graphical interface.

All these must be loaded from disk, and preferably hard disk, before the PC is any use. This is a fundamental difference between the Amiga, which was designed as a system, and the PC which is cobbled together at the whim of each manufacturer.

This makes it hard to be categorical. You can't say 'PCs won't multitask', because they will, although they generally don't – and when they do, they're usually slow and clumsy about it. You can't say 'PCs only do one thing at a time', because it's possible to add devices and adapters that let the processor get on with other work. You can even format a disk while other programs run – as long as you're running Linux, rather than a Microsoft operating system. But in practice these are significant differences between Amigas and typical PCs.

CO-OPERATION

The Amiga system is designed as a whole, to do lots of things at once, so the Blitter can update the screen while the Copper moves it, sound plays, data is transferred between drives and the processor gets on with something entirely different. On a typical PC, the processor would be intimately involved in all these activities, often just waiting for them to finish.

Much of the effort in PC design goes into making the main processor as fast as possible. Even so, the more you do, the slower everything gets, and this is particularly true of the user interface, which requires hardly any processor effort on an Amiga.

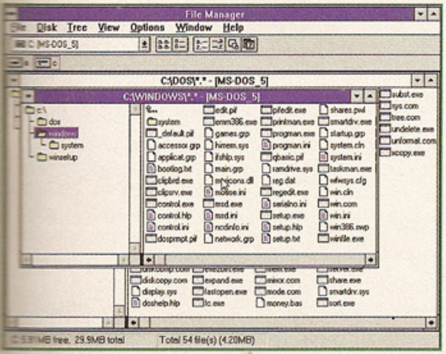
Today many hitherto unique Amiga 'features' are available on the PC, but at extra cost and rarely all at once. On the PC you can have backward compatibility or multi-tasking, but not both. It has taken years for Amiga programmers to find out how to write co-operative code: but Amiga users have learned something that PC users are just discovering.

MS-DOS AND BEYOND

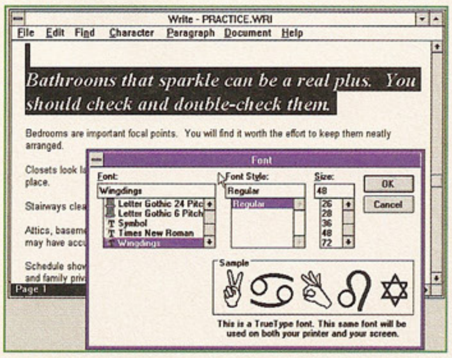
As the PC has no usable built-in software, you need MS-DOS (MicroSoft Disk Operating System) before it can do anything, and you need Microsoft Windows before it can run more demanding programs.

Alternative operating systems include DRDOS, an MS-DOS clone which runs most PC DOS programs. It was written in the UK and is now owned by network specialists Novell. FreeDOS is another clone – part of the Free Software Foundation's 'copyleft' collection – while OS/2 is IBM's answer to Windows, better designed and implemented in its later Warp

Continued overleaf ➡



The Windows *File Manager* is a clunky remix of *DirWork* and *Directory Opus*.



Domestic hints and bizarre characters from Microsoft's *Write* demo text.

PC PROCESSORS

The original IBM PC used an Intel 8088 processor with 16-bit registers handling 8-bit instructions. Follow-ups used the 8086, with the same instruction set but faster 16-bit memory, and the production-engineered 80186. The (80)286 was used in old 'AT' PCs of the mid-1980s. They were hardly 'Advanced Technology' even then, but the US computer illiterati bought what they were told and Intel and Microsoft profitted accordingly.

Compared with the 68000, with its 24-bit addressing and 32-bit registers, the 8086 is feeble. The '286 catches up on address range, but not registers. Intel's first real 32-bit chip was the '386, introduced in 1985. By this stage, they had an awful lot of backward compatibility to worry about.

The 8088 was derived from Intel's 8-bit 1974-vintage 8080, and has many inhereited flaws, deliberately included so that programs could be automatically translated from 8080 to 8088 machine code. This was good news in the early days, since slow software was better than none at all, but led to restrictions which still dog PC users today.

A total of 1Mb of memory could be accessed. The PC design assumed a maximum of 640K for RAM, leaving 384K to be shared among screens, firmware and hardware. All this memory was divided into 64K chunks or 'segments' to match the addressing limitations of the 8080.

For compatibility reasons, certain parts of any PC system must be in the first 640K, causing bottlenecks. Other parts avoid 32-bit instructions, losing speed and locking the current task. The 64K segment limit means that even multi-megabyte PCs barf at 64K of code in Microsoft's QuickBASIC; when a 64K table inside Windows is full, the system effectively runs out of memory, no matter how many Mbs might still be spare.

Intel's 286 was faster and had 24-bit addressing for up to 16 Mb of RAM, with simple memory management, but it also retained the restrictions of its predecessors. A similar 16Mb boundary also limits cheaper Apple Macs and Amigas – witness the fuss about PCMCIA compatibility on the A1200, with its 24-bit addressing, and about the 16Mb ZorroII limit, as well as anguished calls for '32-bit clean' code on the Mac.

The 386 was Intel's breakthrough, introduced as a full 32-bit DX model, followed by SX versions for 16-bit memory. It brought Intel's instruction set close to 68000 standards, with improved memory addressing. All the 8088 instructions and modes were still retained for compatibility.

Speeds doubled with the introduction of the 486, the first Intel processor with an on-chip cache, shared between instructions and data. Motorola chips from the 68030 onwards have twin caches which can be accessed simultaneously, but this faster 'Harvard architecture' did not arrive on PCs till the current Pentium models. Intel concentrated on boosting the speed of their chips, eventually pushing the 486 to four times its original pace.

486DX versions have a built-in floating point co-processor. A 486SX lacks floating point (like Commodore's 68LC040) while Cyrix's 486SLC is a hybrid, with a 16-bit bus like a 386SX, but with 486 internal operations.

Intel have no monopoly on PC processors, and rival chips soon appeared when US Courts ruled that numbers like '386' could not be trademarked. Now AMD's 586 and the IBM/Cyrix 686 claim to deliver Pentium performance at budget prices. Compatibility is not guaranteed.

version, but still not 'the real thing' for running current PC programs.

The 'one true' operating system for PCs is Linux, the free version of Unix. It's remarkable because it shows how well Intel hardware can perform when freed from the heritage of Microsoft. Linux runs nicely on anything from a 386SX upwards, and is quite usable on 386 and 486 Bridgeboards (see below). Sadly Linux is user-hostile, hard to configure and does not work with all PC hardware. It hits the metal, so Amiga drives are not accessible when you run Linux on a Golden Gate board, although it can see the keyboard, ISA cards and drives plugged directly into the bridgeboard.

Linux is great on real PCs, but its software gems also work on NetBSD, the premier Amiga Unix, or the rapidly advancing 68K version of Linux. But if you need a PC emulator you probably want to run Microsoft programs, and that means MS-DOS and Windows.

MS-DOS, now at version 6.2, has changed little since version 3: it's absorbed lots of add-on programs that used to be optional extras. It's a command-driven user interface similar to the Seventies CP/M or the original Amiga CLI and feeble compared with Unix or Amiga shells. I found the Tandy version of MS-DOS 3.3 on 720K disks for just 50p each at a Radio Rally, and it worked fine on all the emulators, consuming less of the scarce 640K base memory than later versions. Avoid MS-DOS 1, which was awful, and MS-DOS 2, which was not standardised, coming in custom versions for specific computers.

MICROSOFT WINDOWS

Seeing the merits of the Mac Finder and Amiga Workbench, Microsoft had three attempts at putting windows onto the PC. The latest version, Windows 95, does not work on *PCX* or *PC-Task* because it needs virtual memory support, which is not yet emulated. In any case, Windows 95 is notoriously hungry for memory and Intel CPU power – both scarce in a typical Amiga set-up – so you're better off with an older version. A few PC programs *only* work with Windows 95, but they're invariably the kind of resource-greedy stuff that crawls on anything but the latest PC and has no chance of running at a useful speed on an Amiga.

Windows 2 is the oldest version you're likely to come across, dating from the late Eighties. It's a toy. It runs on *PC-Task 3*, since it only needs a 286 processor, but it's not much use for real work.

Microsoft did not come up with a viable Workbench clone till Windows 3, soon followed by version 3.1 with many fixes and a few improvements. Now many PCs are supplied with Windows 3.11 or Windows for Workgroups, which includes more fixes and network support. This runs on *PC-Task* – albeit slowly – but *PCX* needs an earlier version.

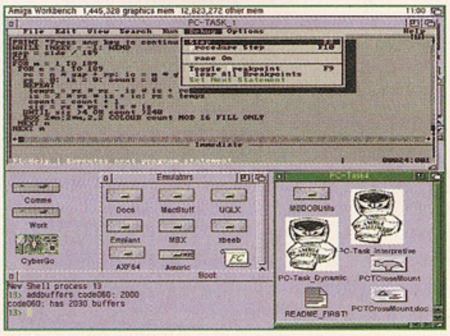
Windows 3 is built on the original 16-bit MS-DOS code. Windows 3.11 comes on eight high density (1.44Mb) disks, with another three for MS-DOS 6.2, which must be installed first. Unless you have a high density disk drive, you'll need help to copy the files onto 720K disks (supported by PC drives but rarely used these days). You might be able to find DOS and Windows on a CD, but you'll still have to copy them before installation as emulators can't read the CD till MS-DOS is installed.

The whole lot occupies almost 20Mb of hard disk space once installed, and installation from floppies takes hours, literally, as the files are read from disk one by one, unpacked and configured. You have to hang around to change the disks and answer questions periodically, although you can get on with other work on the Amiga side as the installation chugs away.

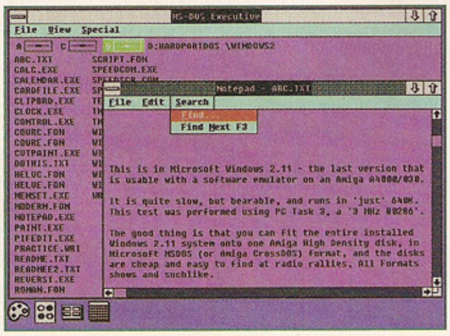
PC-Task's 'readme' file includes a tip which can halve the installation time at the expense of an extra 10Mb hard disk space; if you copy the compressed Windows files from floppies to the directory C:\WINSETUP there's no need to feed them one by one to the set-up program and everything goes much faster – even allowing for the time spent copying. But you'll still have time for a hearty meal while the installer does its stuff, even on a fast Amiga.

BRIDGEBOARDS

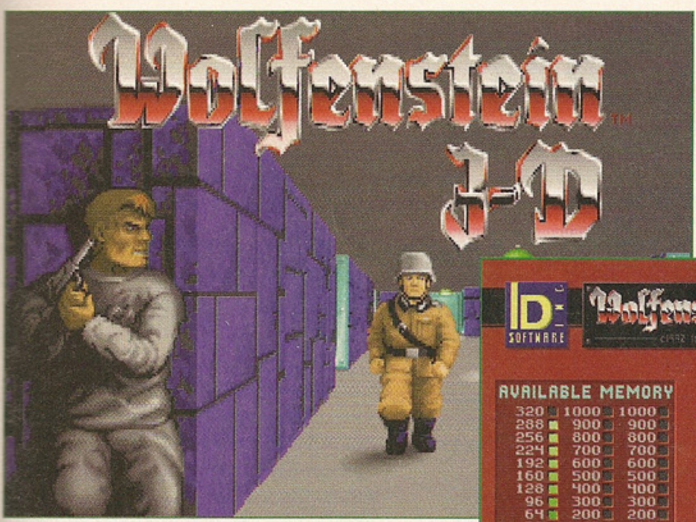
The first Amiga PC emulator was the Sidecar add-on for the Amiga 1000, produced by Commodore and based on an 8088 processor. This introduced the concept of 'bridgeboards' – plug-in co-processors with shared RAM for communication with the main Amiga system.



Microsoft's QBASIC interpreter, running in a window on an Amiga screen.



Another screen from Windows 286 running (well, walking) on *PC-Task 3*.



The menu from ID Software's *Doom*-precursor *Wolfenstein 3D* (below). *Wolfenstein 3D* (left) is about the limit for PC games emulation.



Big-box Amigas have 16-bit ISA (Industry Standard Architecture) PC sockets alongside their native Zorro expansions. A bridgeboard links the two so Amiga or PC cards can fill the remaining spaces.

Commodore bridgeboards used 8088, 286 and 386SX processors. The ultimate model is the Golden Gate 486, from Vortex in Germany. Don't confuse this with the US Golden Gate interface card, supported by *PC-Task*, which has no processor and simply allows Amiga programs to read and write ISA cards.

The bridgeboard concept allows memory on PC or Amiga to be accessible either way, but in practice it's quicker to keep the two distinct, except on an old 16-bit Amiga 1500 or 2000. For speed, put PC memory on the bridgeboard. Golden Gate can use ZorroII RAM, but on most A3000 and A4000 systems this means precious chip RAM. That will be slow by the time it's dodged AGA graphics, disk and sound data, split into 16-bit words and been doled out over Zorro 2.

Printer and serial data can be diverted to Amiga ports or add-on cards. Golden Gate software also supports an ISA serial or parallel port. ISA graphics cards are cheap and powerful. Get one with at least 512K RAM – and custom software drivers to switch the 64K segments around – to make reasonable use of a 14 inch multisync monitor.

Bridgeboards are no longer made, but they're worth looking out for on the second-hand market, expecially if your Amiga does not have a state-of-the art processor to make software PC emulation viable. 8-bit bridgeboards are incompatible with Zorro 3 and pathetically slow, but later 286 ones may still outrun software emulators. These include the AT-Once for Amiga 500, as well as Commodore 286 bridgeboards. Sometimes the CPU chip on a bridgeboard can be swapped or boosted: Aminet has notes for would-be upgraders with nerves of silicon.

COMPATIBILITY

Backwards compatibility is generally assumed by PC vendors, but not guaranteed. The general attitude is: "If you find a problem, buy your way out of it," as my Executive Producer at Central TV used to say long ago. There's no definitive 'PC Hardware Reference'. Just because it doesn't work on your emulator, doesn't mean it *will* work on your friend's PC. Or vice versa. PCs are called 'compatible' to disguise the fact that they're not.

GRAPHICS MODES

PCs can have hundreds of graphics modes. Like Amiga OCS, ECS and AGA modes, these come in sets with three-letter acronyms, where each new set incorporates all the earlier ones. The most common are grouped by chipset and resolution in this order: CGA (colour, just!) followed by EGA (sub-ST), VGA (sub-AGA), XGA, SVGA and then off into custom graphics card territory. Each acronym adds more modes, more colours and more resolutions.

The emulators – like most real PCs – concentrate on commonly used modes, so programs that use odd or customised ones give weird results. Fashion favours 800 by 600 pixels in 256 colours, with 1024 by 768 pixels close behind. These are high resolutions by Amiga or TV standards.

The release *PCX 1.1* supports 320 by 200 block graphics in 256 colours, and higher resolution 2, 4 and 16 colour modes, like the *Vortex* software. These are the most Amiga-like of the scores of PC modes. The low resolution 256 colour mode is fine for *Doom* but not much else, and it's the only one currently useable with graphics cards!

PCX supports both CGA graphics palettes, while *PC-Task* only uses black, white, cyan and purple.

PC-Task 4 handles modes flexibly, but needs careful configuration and can be slow. It lets you assign an Amiga, Picasso96 or CyberGraphx mode, chosen from the familiar screen mode requestor, to each of two dozen PC modes. Each screen can be updated synchronously or periodically, and optionally diverted to the Workbench.

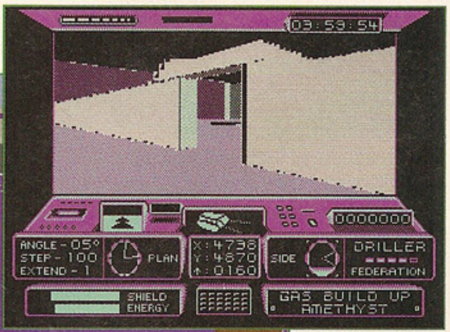
Much of the 'art' of the PC is learning cryptic switches, like /D:X, without which Windows 3.11 gets stuck on PC-Task (and some real PCs). There's no standard installer as there is on the Amiga. 'AUTOEXEC.BAT' is the equivalent of the Amiga's 'startup-sequence'. PC file names are up to eleven characters long, (no spaces or small letters) with a compulsory dot before the last three characters. And that's just the start of the fun…

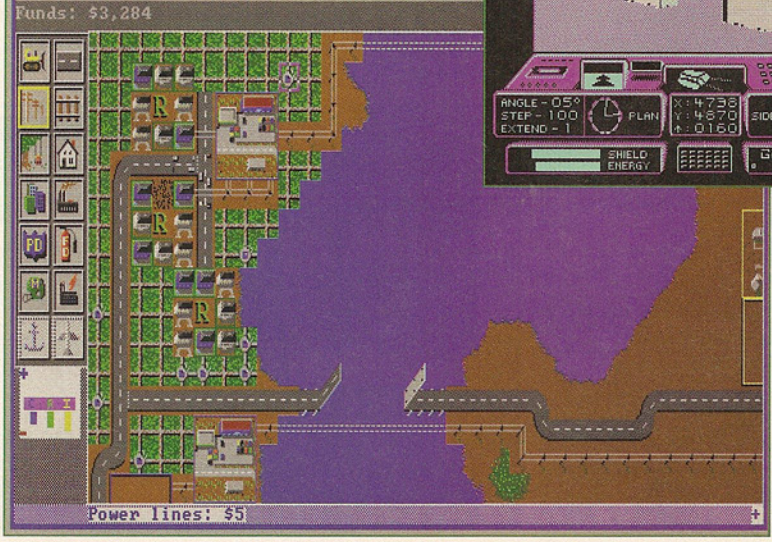
CROSS EMULATION

PC emulators for Apple Macs and Unix boxes can run on Amigas extended with Shapeshifter or NetBSD. *SoftWindows* and *SoftPC*, from Insignia Solutions, are both leading commercial PC emulators on Macs. *SoftPC* will not run on a 68060 but *SoftWindows* is compatible.

Like *PC-Task 3* in Turbo mode, these emulators trade memory for speed. *SoftWindows* needs over 34Mb to emulate an 8Mb PC. It's still an interpreter, so it cannot match the speed of PC-Task 4 in dynamic mode, but crucial parts of the Windows user interface are re-coded for the Mac, reducing the amount of clumsy Intel code that must be interpreted.

PC emulators for Unix are outclassed by the new Amiga emulators. Most are better suited to MS-DOS than Windows emulation. DOSEMU, XDOS and PCEM are among the best for MS-DOS, while BOCHS and WINE are promising Unix Windows emulators.





The 3D demo (above) shows the 'rough edges' – literally – in *PC-Task 3's* Turbo mode. The PC version of *Sim City* (left) uses an 'EGA' display, emulated quite well.

New PC emulators

Two new software emulators arrived early this year. *PCX* and and *PC-Task 4* both claim to translate, rather than interpret, Intel code as they go along, for unprecedented performance. Both claim compatibility with Microsoft Windows. But is it reasonable to expect a useful PC for £50? Either way, what *do* you get?

PCX 1.1

PCX from Microcode Solutions (formerly Utilities Unlimited) requires a 68020 or faster, at least three megabytes each of fast memory and hard disk space, plus Workbench 2.04 or later. To get started you also need a PC operating system – generally this means MS-DOS.

PCX emulates the instruction set of an Intel Pentium processor, with some gaps in memory management. The emulator comes in two versions, with and without support for floating point instructions. You need an Amiga with a co-processor – either a 68881 or 68882 add-on, or a full 68040 or 68060 – to run the floating point version.

PCX comes in a CD case with one floppy disk inside. There's no printed documentation, apart from the CD inlay which lists requirements and features (some now, some later) and promotes forthcoming emulators.

The features list is misleading, claiming that PCX emulates a Cirrus 5428 graphics chip, capable of 'VGA/SVGA graphics' with 'support for all usable graphics boards'. Its only mode that works via a board, as opposed to native Amiga graphics, is PC Mode 13 – fine for low-resolution *Doom* but not a lot else.

PC-TASK 4

PC-Task 4 also needs a 68020 or better, but can just be squeezed into 2Mb of RAM. It emulates a 486SX processor – very slowly, if you run it from chip RAM, so RAM expansion is highly desirable.

PC-Task 4 also comes on one 880K disk, but this time you get a 50 page A5 printed manual. There's much duplication – one cautionary paragraph appears seven times – but it's still a lot better than the sketchy *PCX* AmigaGuide. A lot of the wording is identical to that for *PC-Task 3* – indeed the cover has a small piece of paper saying '4.0' stuck over the heading 'version 3' – but the text is accurate apart from one reference to Appendix D which should say Appendix E.



PERSISTENCE SOFTWARE



The faces behind PCX – although the company's name has changed.

Much of the manual discusses accessing PC files from the Amiga. There's a brief but useful explanation of MS-DOS commands, a discussion of 'common problems' and some very useful extra information in a 'readme' file.

PC-Task 4 supports 23 graphics modes, including 16 and 256-colour modes in resolutions of 800 by 600, 1024 by 768 and 1280 by 1024 pixels; you'll need a graphics card to see those properly. It can also handle 256-colour modes with 640 pixels per line and 400 or 480 lines, which are compatible with AGA. Both emulators are configured from neat *GadTools*-based windows.

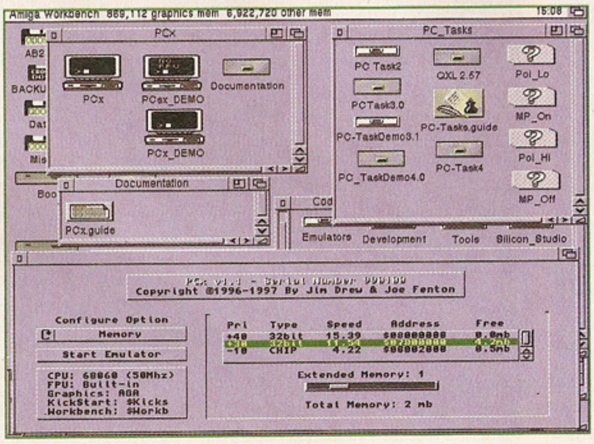
PC DRIVES

The emulators support up to two floppy and two hard drives. Floppy emulation is rather slow and it may take a couple of tries before a disk change is recognised. The 'hard drives' may be partitions or files on an Amiga drive. 'Hard files' can be interchanged between *PC-Task* and *PCX*, but not the faster partitions. *PCX* automatically makes 'mount files', allowing the Amiga system full access to the PC files. This is trickier with *PC-Task*, but it is well documented. Either way, you must avoid reading from one system while writing on the other, or the PC and Amiga may get out of sync, with disastrous consequences.

Both emulators come with rudimentary CD-ROM handlers to access PC CDs in Amiga drives from the emulator. You need Microsoft's freeware MSCDEX to decode the normal CD file systems. *PCX* includes an ASPI handler, for the PC equivalent of Amiga SCSI direct, and also features a text screen accelerator.

PCX claims support for 8-bit digitised sound, emulating a Sound Blaster card. Sound Blaster synthesis is promised but not yet implemented. *PC-Task* only emulates the pathetic one-bit IBM beep, but that's enough to alert you when a disk change is required.

PCX starts on your Workbench, showing available memory space and speed.



SPEED

The difficulty of PC emulation is that each Intel instruction does a very small amount of work. PCs have high MIPs (Millions of Instructions Per Second, or Meaningless Indicator of Performance) statistics because of their simplistic instructions. A 68000 can do in one step what might take three or more on an Intel processor.

This is little consolation when you must interpret Intel code. The Amiga must execute several Motorola instructions to fetch and decipher each Intel one of even a single byte. It takes a lot of effort to interpret PC code. The answer is to generate Motorola code on the fly (*PCX*'s CPU Transcription; Dynamic Execution in *PC-Task* – and try to re-use bits of ready made code when the program loops. As yet, this boosts *PC-Task* much more than it does *PCX*.

Transcription reduces the overhead of repeatedly fetching and decoding Intel instructions, making the emulator substantially faster. The simpler and more repetitive the original, the greater the benefit, as decoding effort otherwise predominates. The buffer size used for temporarily generated code may make emulation faster or

slower, depending on the program and hence the ratio between time spent book-keeping versus running transcribed code.

Code generation matters little when the emulated instructions are complicated, like division, floating point or string operations. If programs are self-modifying – often the case for 3D games on the PC – code generation may become counterproductive, as it is repeatedly generated and thrown away as the ground shifts under it.

Ideally we'd translate programs *en masse* and so eliminate the redundant steps that are only needed to get around quirks of the Intel architecture. This would be great, if it could be done, but so far it's defeated the best efforts of some great programmers.

Such 'cross-compilers' exist for RISC workstation and VAX code, but even then they don't work all the time, requiring manual intervention. Intel code is very tricky to translate; despite the enormous commercial potential of an Intel translator, so far we're stuck with interpreters and code transcribers.

COMPARISONS

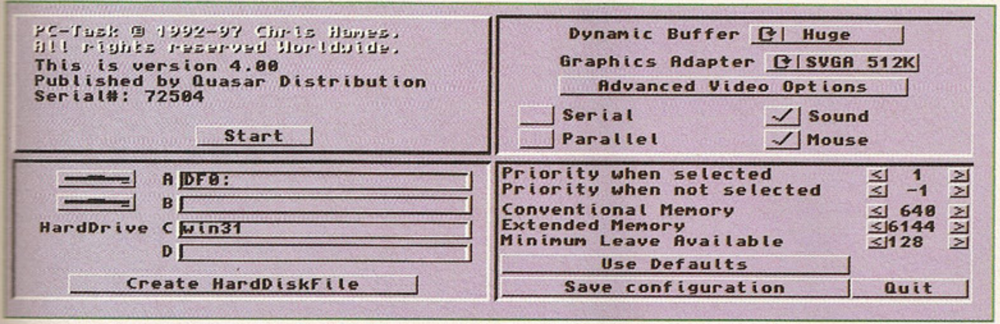
You can't say for certain which is fastest of *PCX* and *PC-Task* – it depends on the

NET CONTACTS

PC-Task 4:
http://www.ozemail.com.au/~pctask
PCX:
http://blittersoft.wildnet.co.uk
FreeDOS:
http://sunsite.unc.edu/pub/micro/pc-stuff/freedos/freedos.html
Ami demos:
ftp://wuarchive.wustl.edu/pub/aminet/misc/emu
Mac emus:
http://www.insignia.com
Unix emus:
ftp://tsx-11/mit.edu/pub/linux

program you try. Carefully chosen benchmarks can 'prove' that *PC-Task* is anything up to five times faster than *PCX* – and vice versa! Overall, both are slow by PC standards, although usable if you choose your applications with discretion. Modern games are least likely to work. *PC-Task* has the edge on integer processing, while *PCX* gives faster Amiga displays.

In general, *PC-Task 4* out-runs *PCX* in MS-DOS, though by less than crude benchmarks would suggest. If your programs make heavy use of floating point arithmetic, *PCX* has a big advantage; *PC-Task* must interpret



***PC-Task 4* displays its configuration options on a custom screen.**

software FP emulation, making it many times slower.

Despite fast processing, *PC-Task 4* seems relatively slow and erratic, refreshing the display intermittently and swapping back and forth between processor and screen emulation. *PC-Task* has the most modes; *PCX* has fewer, but better. *PCX* has less rough edges, like the tendency of *PC-Task* to misplace the cursor.

CONCLUSIONS

PC emulation is an extremely difficult thing to get right, and both *PCX* and *PC-Task 4* have had a good stab at it. Compared with a PC or a second-hand bridgeboard, the price is reasonable – but you get what you pay for.

You need a fast 68040 and preferably a 68060 to run Windows at a bearable speed. Lesser Amigas can run most MS-DOS programs at a useful if slow pace.

PC-Task makes the best of slow Amigas. *PCX* excels if you're into floating point maths, but has some catching up to do in support for graphics cards.

Both these emulators are grand hacks in the guru tradition, hand-crafted in 68020 assembly code. Each crashed or locked up at times, just like real PCs, but they're quite usable, in view of their complexity and the moving target.

There is room for improvement. Both sometimes use instructions which 68060s must emulate, and scramble the UK keymap. They're sure to be updated for processor speed, graphics and compatibility. The authors Jim Drew and Chris Hames are regulars on the Usenet newgroup comp.sys.amiga.emulations and both Wizard and Blittersoft have good reputations for customer service.

Prices are reasonable when you remember that people will almost certainly need some technical support. Installation of PC software is a tricky, long-winded process for a beginner, so it helps if you know someone already familiar with PC trivia. Think twice before mailing Chris or Jim, as each message delays the next update... AF

PCX 1.1

DISTRIBUTOR: Blittersoft 01908 261466
PRICE: £49.95
REQUIREMENTS: 68020, hard drive, WB2.04+, 3Mb+ RAM, MS-DOS.

SPEED: ●●●○○
Tops for graphics and mathematics.
MANUAL: ●●○○○
The weak point of PCX.
COMPATIBILITY: ●●●●○
Solid, apart from missing MMU operations.
VALUE: ●●●●○
Reasonable given the performance.

OVERALL VERDICT:
Really excels if you're into floating point maths.

74%

PC-TASK 4

DISTRIBUTOR: Wizard 01322 527800
PRICE: £69.95
REQUIREMENTS: 68020, 2Mb+ RAM, MS-DOS

SPEED: ●●●●○
Great for integers and daft benchmarks.
MANUAL: ●●●●○
Printed manual and helpful README.
COMPATIBILITY: ●●●○○
A bit shaky on the input side.
VALUE: ●●●○○
A bit pricey for a software-only emulator.

OVERALL VERDICT:
Most suited to slow Amigas but has the edge on integer processing.

72%

The coolest kit

The hottest hardware

The sexiest technology



T3 brings it all into focus

T3 magazine is all about new technology, from quantum computing to digital photography; from in-car hi-fi to videogames. It's crammed full of news, features, hardware reviews and great big pictures of the sexiest gear (in focus, naturally).

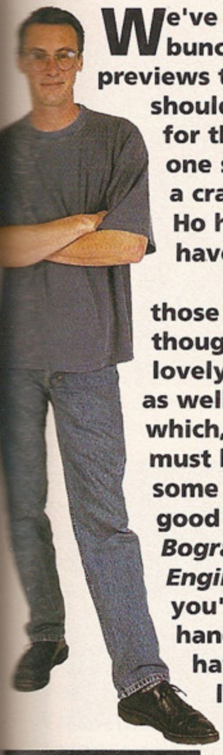
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T3 TOMORROW'S TECHNOLOGY TODAY

On sale now!

THE LATEST GAMES, THE HANDIEST HINTS AND SOME CLEVER PROGRAMMING FROM YOU!



We've got a whole bunch of new previews this month which should help make up for the fact that no-one saw fit to release a cracking game. Ho hum, you can't have it all can you? You can have those Reader Games though and all those lovely tips and cheats as well. Talking of which, some of you must have been buying some of this year's good games like *Bograts*, or *Chaos Engine 2* so surely you've got some handy hints? You have? Good. Now let's look what's happening this month...

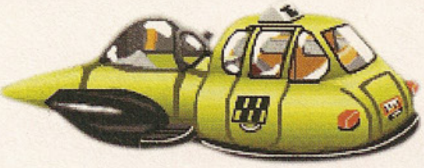
Andy Smith

AMIGA FORMAT'S REVIEW POLICY

Every month we scour the world's software houses for the latest and greatest Amiga games. We try to ensure we keep you as up-to-date as possible and we'll stop at nothing to bring you the best, definitive, no-nonsense reviews of the games that matter.

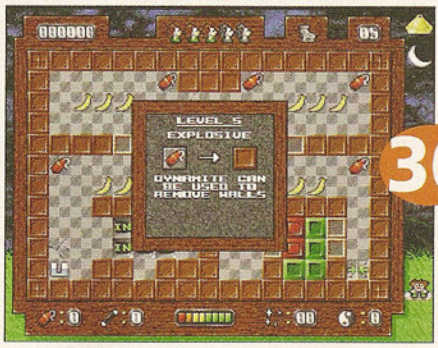
WHAT OUR REVIEW SCORES MEAN

- **90+%** The crème de la crème. Only the very best, most playable and original games are awarded an *AF* Gold – the most highly prized rating there is.
- **80-89%** These games are very good, but due to minor flaws are not the finest examples of their genre.
- **70-79%** Good games which are worth buying, especially if you have a special interest in a game type.
- **60-69%** Average releases with somewhat limited gameplay and appeal. Games in this category tend to be flawed.
- **50-59%** Below average games which are unlikely to impress your mates or your wallet. Avoid.
- **40-49%** Overwhelmingly poor quality games with major flaws and appalling gameplay.
- **Less than 40%** The absolute pits.





The sort of power Nick wields over the *AF* staff!



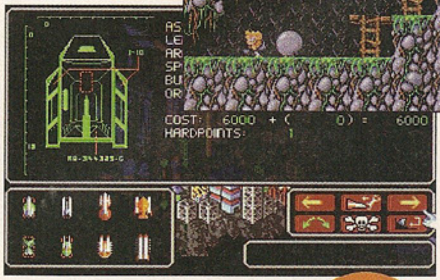
Collect the bananas for extra points.



At least they can spell exit!

Rick needs a Helping Hand.





Building weapons in K240.

Previews

Epic are launching a new games label - Islona, so here's a sneak preview of the first batch of new titles Epic hope to establish the label with. Enjoy.

Sixth Sense Investigations



Big ol' cartoon scenery, lots of wacky angles and I dare say the odd gag in *Sixth Sense Investigations*.



For adventure game fans comes this '*Day of the Tentacle*-esque' arcade adventure. The player controls two characters in their quest to find the missing cheese (why on earth do these games always have you looking for silly things? Why can't you be looking for something useful? Like the TV remote, or your wallet after a particularly heavy night? But I digress...)

The full game's got some 30 locations (we've only seen a disk of screenshots so we can't really tell you how it's going to play) and CD owners will be pleased to learn that the CD version also has full speech (there are six languages too, so have a giggle trying to follow what's going on in Dutch!).

As mentioned above, we've only seen the screenshots here so have a look and we'll keep you updated as and when we receive any more information.



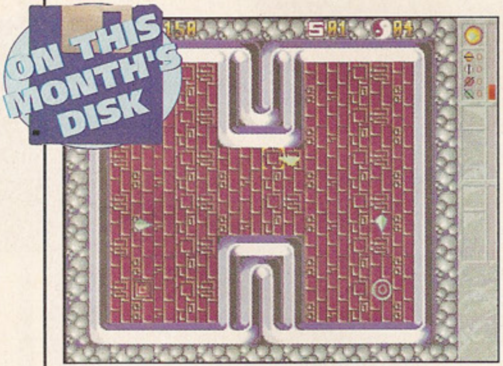
Wacky taxis, wacky characters, wacky game!



Expect a full review in next month's *Amiga Format*.

March '97 £24.99

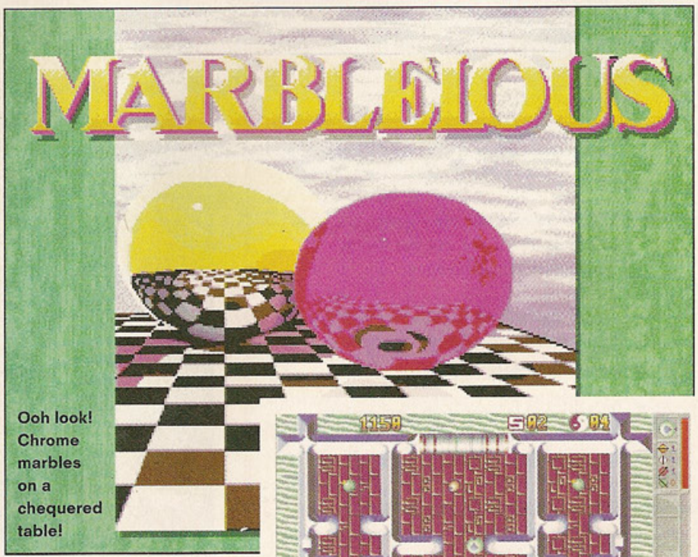
Marblelous



Kicking off the budget label, Islona Budget, is this addictive 100 level puzzler. It's an idea that's been done before but this one's full of a whole new set of surprises.

Basically the idea's pretty simple, direct a marble around an arena using a combination of direction arrows, stop signs and a bunch of other instructions at your disposal and complete the level's task – get the marble to pick up a powerball on the other side of the arena and then get it to the exit, for example. You know the kind of thing – the marble just keeps going in the direction it's been pointed until it trundles across another instruction or explodes because it's run into a wall.

This kind of game is so simple yet so addictive. Once you've completed a level you just can't stop yourself from having a bash at the next. Keep your eyes out for a full review when we receive the finished game (it's almost there we've been assured). And if you can't find *Amiga Format* on the shelves for a couple of month's you'll understand that we have indeed received the finished game...



Ooh look! Chrome marbles on a chequered table!



Heaven knows what's going on here but I bet it's loads of fun!

March '97 £7.99

Kargon



It's the Spice Girls! My goodness! How dare they say that! Actually it's the character choice screen.



Due for release in March (so that should be about now) this adventure/puzzle game enables up to four people to compete simultaneously in their quest to discover who's the greatest sorcerer.

It's a kind of *Doom* Death Match (but on the Amiga) where you spend your time running through labyrinths of corridors and dungeons trying to destroy your opponents and survive any attacks they might launch against you. And it's not just your opponent you have to worry about – the dungeons and catacombs are populated by monsters and as if they weren't trouble enough there are all manner of traps and pitfalls to test your wits.



Magic walls, teleports and a whole host of cunning tricks and stunts have been thrown in to try your skill, while you're rushing around chucking fireball spells all over the place. This game is going to appeal to people who not only like the thought of combat in dungeons but to gamers who like solving the odd puzzle to boot!



Choosing what spells to chuck around is the key to success down in the mean dungeons.

There will be a full review of this exciting new game in next month's *Amiga Format* all things being equal and with a good following wind... AF

May '97 £29.99

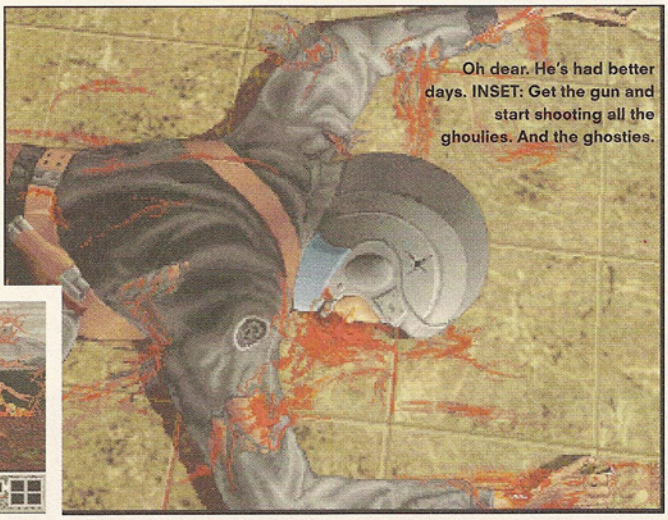
Testament

Here's a game that we really can't wait to get our hands on. It's an *Alien Breed*, *Gloom*, and ultimately *Doom* clone that puts the player in the middle of a graveyard in the dead of night.

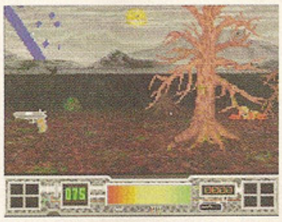
And yes, the dead do have an unnerving habit of getting up and coming after you ('Send more brains...'), so arm yourself as quickly as possible and send 'em all back to Hell.

Although we haven't yet had time to play this exhaustively, we're already impressed with the speed of the game (running on our A1200) and with the fact that it's so damn scarey! And if you think it's all zombies with their arms outstretched then you're in for a nasty surprise.

The version we've played with is in German but we're assured the finished version will be translated so expect more news when we've got our grubby mitts on the English version. Meanwhile you'll just have to enjoy all these spooky pics... AF

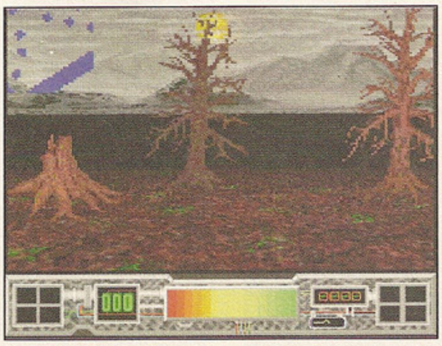


Oh dear. He's had better days. INSET: Get the gun and start shooting all the ghoulies. And the ghosties.





A floating eye baddie buys the farm. This is fast, smooth and a little bit eerie. Gulp. Behind you etc.



Don't want to go down in the graveyard at midnight (woah, woah). Especially when it's full of dead trees.

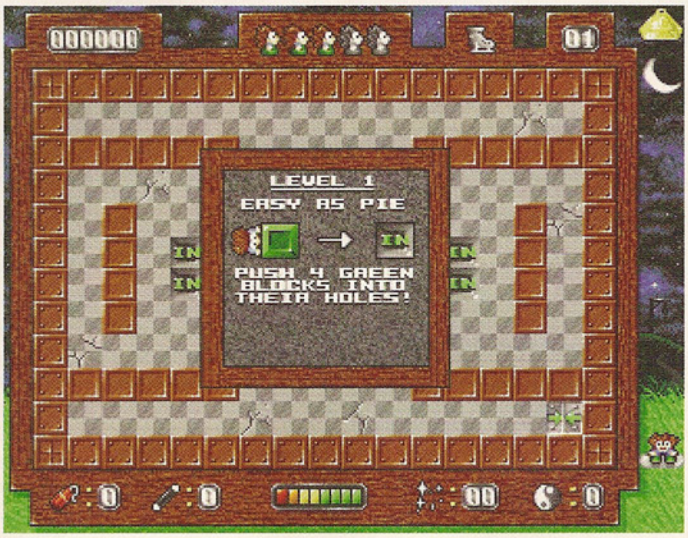


Quick! Shoot the green stuff! Shoot the suit of armour! Shoot anything!

May '97 £24.99

Block

Andy Smith and the word Blockhead together in the same sentence? Surely some mistake...



The beginning instructions introduce new features for the level. Very handy too mate.

We like puzzle games on *Amiga Format*. They generally give good value for money because you can take ages to finish them and if they're done well you can find yourself thinking of nothing else as you try to work out how to get past the part that's currently got you completely stumped.

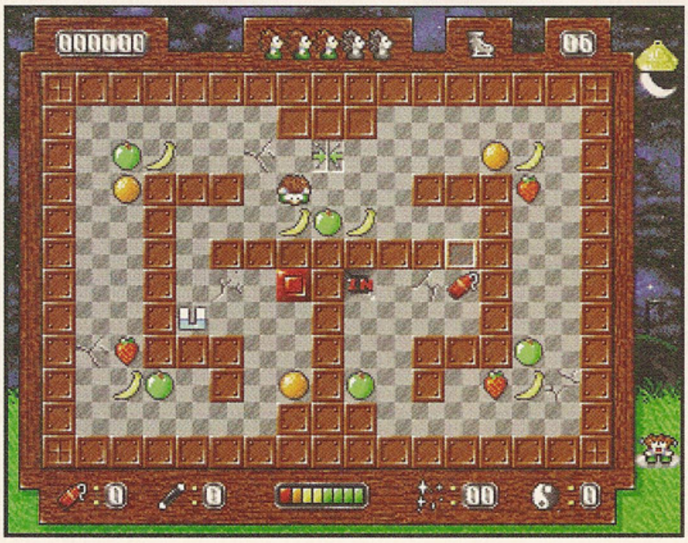
Thankfully, *Blockhead* is a goodie. It's not a greatie, for reasons I'll go into later, but it's a goodie all right. It's about manipulating blocks. Moving them from one place to another in order to open the exit and go to the next level. Ala Sokoban and the rest.

Well paced

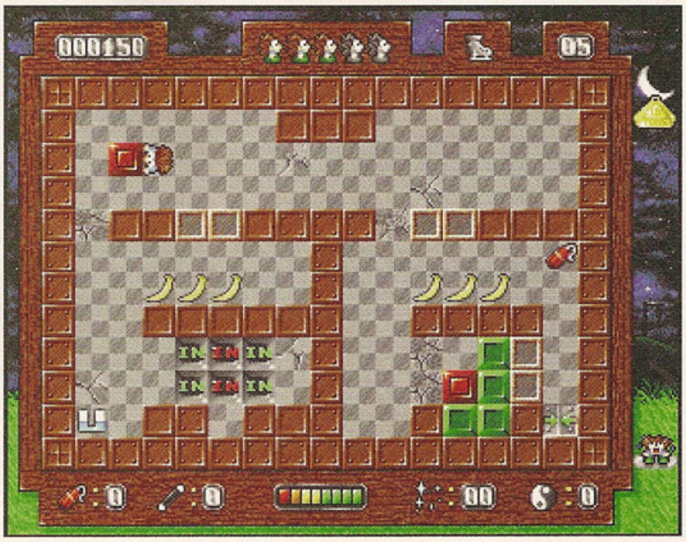
Applaud have, quite rightly, made much of the fact that the game's got a well-paced difficulty level. New tricks and treats are introduced gradually and in such a way as to leave you in little doubt what you should be doing with them. Nice one Applaud.

You're this little chap viewed from above (very *Valhalla*) who trundles around the screen. There are green and red (at least, we haven't got far enough to find anymore though...) blocks which can be either pushed or pulled and there are brown blocks which are immovable. These brown blocks, or some of them at least, can be destroyed on later levels by dropping sticks of dynamite next to them. The idea's to pull the moveable blocks around the immovable ones and drop them into their colour-coded IN holes. This is never as easy as it may seem because you're limited to how you can push and pull exactly. You might have two lines of brown blocks with only enough room for one coloured block between. That's not so bad when you just want to move between 'em but when you want to push at 90 degrees to the immovable blocks you're probably going to find you don't have enough room to manoeuvre. Many's the time you're going to push a block somewhere, leave it and then wander round the maze of immovable blocks until you can come at your coloured block from a different side. And that's part of the fun. Working out where you need to be not only now, but when you've made two or three direction changes. Challenging stuff sometimes.

To really put the screws on Applaud have put you up against a time limit. On the right of the screen a large weight descends over an icon of your character. It only drops slowly but sure enough, when it hits your little chap you've



The fruit merely give bonus points so don't be distracted by them unless you've time.

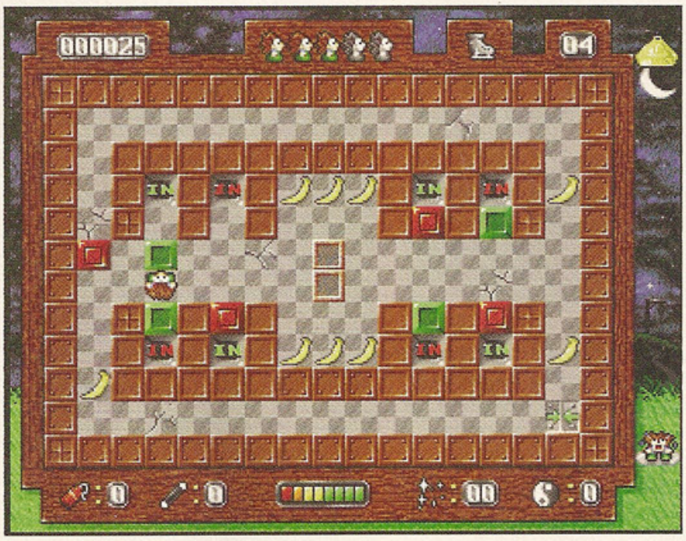


You've got to use dynamite to blow access holes in the walls on this level.

head

lost a life and have to re-start the level. When you've lost all your lives you're dumped back at the title screen. Fortunately, there's a level code entry system so you don't have to go through the motions of doing the early levels over and over and over again, though the code isn't made as clear as should be because it's the level name that's the code and is easy to miss.

And so all the other bits: you're not only attempting to solve each level, there are bonus points to be collected by picking up items around the screen. There are even secret bonus points icons to be uncovered by walking across 'em but at the end of the day it's the solving of the levels that's important.



Here you've got to quickly manipulate red and green blocks before the weight drops...

On ice

Let's take a typical level for example. Level 7 sees the introduction of Ice. Now this ice only allows you to travel across it in the direction you first stepped on it. Unless you're wearing the ice skates which have to be collected from behind a wall of destructible brown blocks. And the dynamite to destroy the blocks is in another part of the level where the ice makes it very difficult to get at.

Solving the puzzle involves sticking something in the way on the ice so that when you step onto the ice from another direction, you'll stop when you hit the object. You'll then be able to turn and go and get the dynamite which, in turn, will allow you to get the skates. By this time though, you will have realised that you should have moved another block somewhere else before going to get your skates. It's that kind of game.

Although most of the levels are well thought out and varied you don't get the feeling that something truly special is required to solve it. Some would argue that's good because the game is at least playing fairly. But with a game like this the odd curve-ball can make all the difference.

Good and solid

It doesn't look that great, the sound is so-so and it's hardly got knuckle-whitening, adrenaline-pumping gameplay but it's a jolly good, solid puzzle game. Derivative but well put together and certainly worth a look if your grey matter is in need of a work-out.

PUBLISHER: Applaud Software 01283 217270
PRICE: £14.99
VERSIONS: A500/A1200
REQUIREMENTS: 1.5Mb
RELEASE DATE: Out now

GRAPHICS: ●●●○○
Not as pretty as Melinda Messenger.

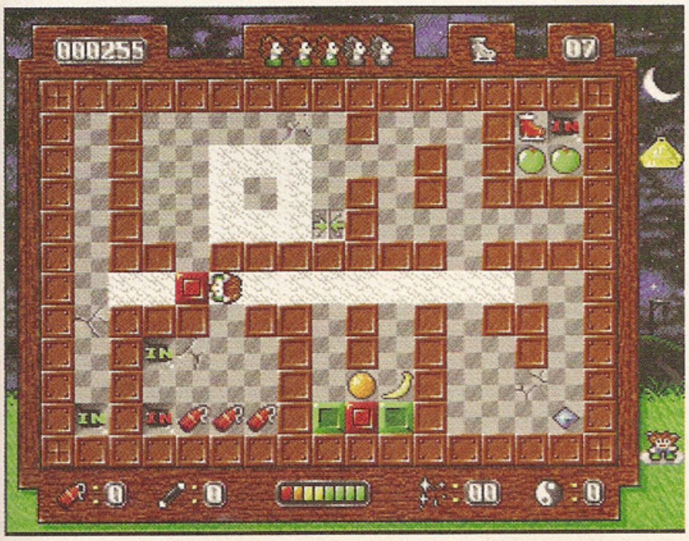
SOUND: ●●○○○
Beck could teach 'em a lot.

ADDICTION: ●●●○○
On the slippery slope towards Class A.

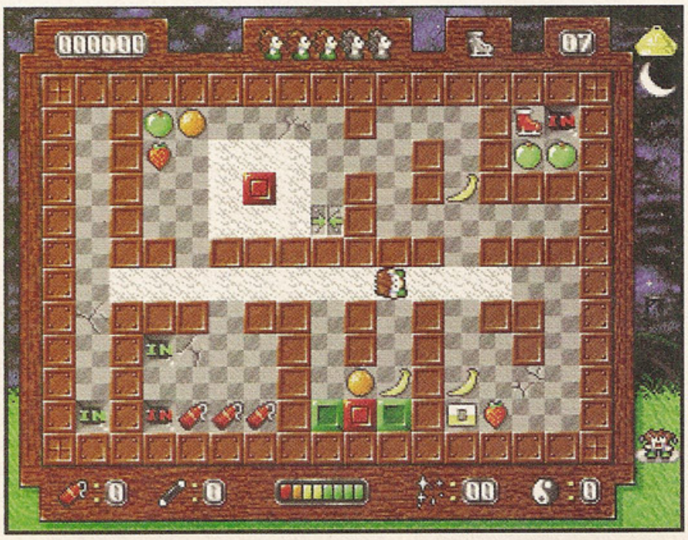
PLAYABILITY: ●●●○○
Easier than chess, harder than Jack Straws.

OVERALL VERDICT:
A solid, if uninspired, puzzle game that will keep you playing. Just don't expect too many fireworks.

77%



Put the red block here and slide up to it to get access to the dynamite room below...



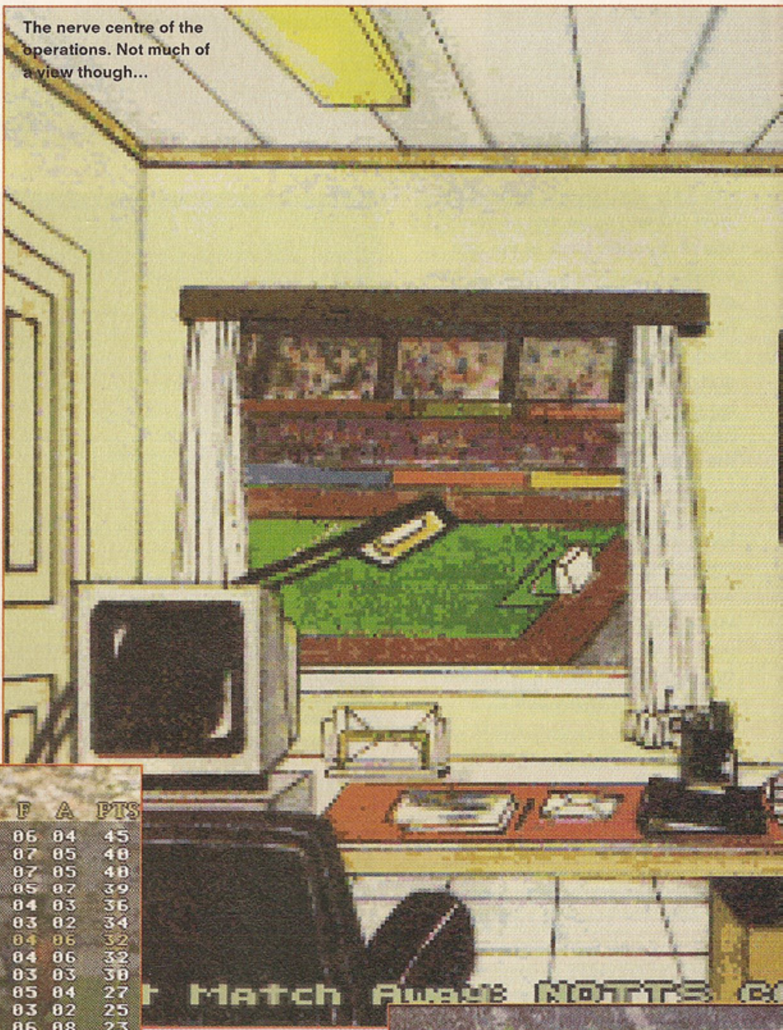
...'cos if you don't you keep sliding up and down the ice – which won't solve the level.

Euro League

With a sheepskin jacket, big cigar and bad haircut, Andy Smith wonders why he stands alone at discos...

Local matches are always good fun in the *Amiga Format* office. They used to be even more fun when Linda Benson still worked with us because both she and Cathy are Bristol City fans (****heads) whereas I follow the true path and support Bristol Rovers (Gashead). But baiting the solitary Cathy is fun enough when there's a footy manny game to review.

This one's supposed to be a European affair and it is, in that you can choose to manage a Spanish or Italian team instead of an English club, but frankly, I don't really see why you'd want to very much. The box blurb reckons you're going to have to adopt different tactics to succeed in each of the different International leagues, but, for reasons I'll go into later, I'd take that with a pinch of salt. Still there is the chance to play in European Cup competitions (UEFA Cup and all that) as well as domestic League Cup competitions, so I suppose that sorta, kinda makes it European.



The nerve centre of the operations. Not much of a view though...

DIVISION 2

		PL	W	D	L	F	A	PTS
1	BURNLEY	03	01	02	00	06	04	45
2	ROTHERHAM	03	02	01	00	07	05	40
3	PLYMOUTH ARG.	03	02	01	00	07	05	40
4	BOURNEMOUTH	03	01	00	02	05	07	39
5	BURY	03	02	00	01	04	03	36
6	NOTTS COUNTY	03	01	02	00	03	02	34
7	BRISTOL ROVERS	03	01	01	01	04	06	32
8	BRENTFORD	03	00	01	02	04	06	32
9	BRISTOL CITY	03	00	03	00	03	03	30
10	CHESTERFIELD	03	01	02	00	05	04	27
11	MILLWALL	03	01	02	00	03	02	25
12	CREWE ALEXAN.	03	00	01	02	06	08	23
13	PRESTON NORTH	03	00	01	02	06	08	19
14	BLACKPOOL	03	00	03	00	04	04	19
15	SHREWSBURY T.	03	00	01	02	02	04	18
16	LUTON TOWN	03	01	00	02	05	04	18
17	PETERBOROUGH	03	02	01	00	07	05	13
18	GILLINGHAM	03	00	02	01	03	04	09

Thirty two points off of three games? (Left) I don't know about you but something smells fishy to me...



Turn off the animations and this is what you'll enjoy during the matches. Groovy or what?



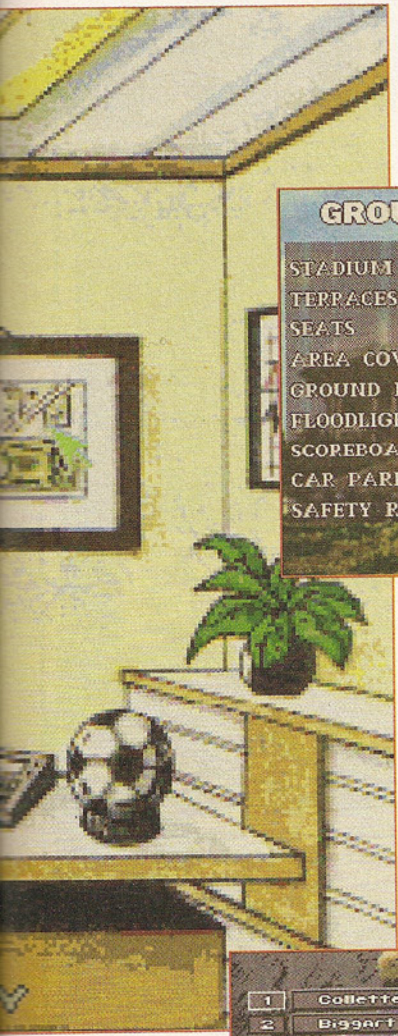
Whoops on Wednesday chaps. And what's this about individual player training?

Turn it off!

One of the first things you'll want to do when you boot this up, is go to the options screen and turn off the animations. If you don't then every time a goal is scored, or missed, you're treated to a little TV monitor replay of the goalmouth incident. The animation itself isn't so bad – it's not the best ever seen either – it's just that there can be 20 goalmouth incidents in a half and it gets really tedious, having to watch the same 'clip' over and over and over again. Turn 'em off fast. And while you're here you'll probably want to speed up the gametime because then waiting until the end of the match is less painful.

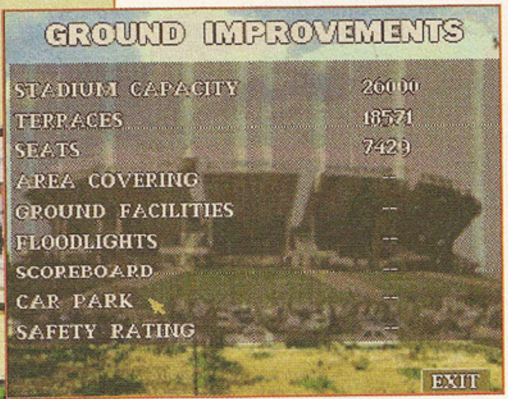
All the basic stuff you'd expect to be in a game of this type is here.

Manager



Training for instance. It says on the box blurb "Individual player coaching to improve your team. Some players may thrive on hard training but others may not. Finding the right balance is the key to success." But all I ever managed to do was pick what the team were doing on a particular day – dribbling on a Wednesday for example. Or should I say Wendnesday, as the game does!

Actually, that's one of the least annoying things about the game. It's riddled with bugs. I talked to Guildhall about the bug that dumps you out to a blue Workbench screen whenever you refuse an offer on one of my squads and was assured it was because of the machine I was playing the game on. Maybe, maybe not but the game still bombed out every now and again, even after swapping



Twice I should have had a car park. Twice they ran off with the dosh. Still no car park.

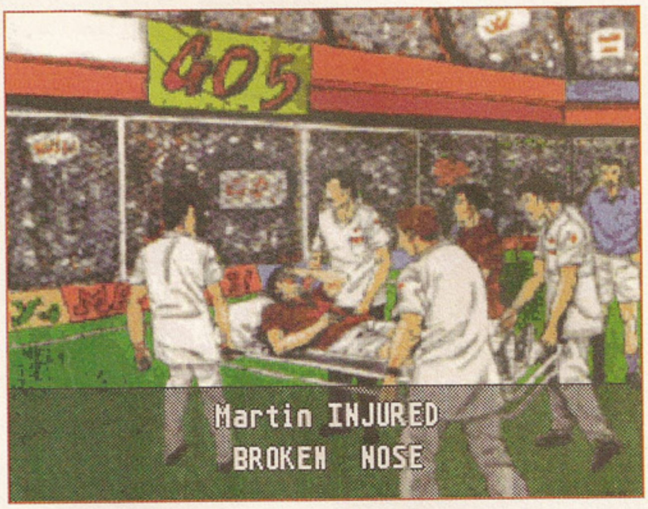
machines. I wouldn't trust it myself, especially having experienced the game's other bugs. Foolishly I decided to upgrade my stadium and have a car-park built (for the substantial sum of 10,000). This was going to take me 10 game 'weeks'. Stupidly, I decided to save the game after a few weeks. When I re-loaded it back in I was surprised to find that



Yes, I know all the names are wrong. It's just a game, OK?

Bristol Rovers had only played 3 games this season and accumulated 26 points. I was really surprised to find the car-park builders had abandoned the project but kept the money. Bastards.

As for the transfer system, well it's beyond me. Sure, you can buy domestic or foreign players but the pricing of players is very odd.



Suppose you want A. Smith from Shrewsbury. He's priced at 4473. He's valued at 5190. Shrewsbury refuse to sell him for anything less than 8765. Now suppose you want to sell B. Smith to Shrewsbury. He's valued at 7654. The best offer you get from Shrewsbury is 4298. It just doesn't seem to be a very satisfying part of the game.

Pump

Unless your glasses are very rose-tinted you'll have realised that I think this game is pump. Despite the horrendous bugs (our review copy was a full-on, packaged as you'd get it in the shops affair, so there are no cries of "Well, it's a pre-production version, all the bugs will be gone before it hits the streets"), it's just too basic, shallow and unfulfilling to give you any pleasure. There's not even much sense of 'Europe' about the game – unless you're someone who actually gets into European competition. There are many football management games around that are better than this – check out something like *USM, Premier Manager 2* or any other football management game in fact. Don't go for this at all.



The highlights animation screen. Turn it off!

PUBLISHER: Guildhall Leisure 01302 890000
PRICE: £19.99
VERSIONS: A1200
REQUIREMENTS: 2Mb
RELEASE DATE: Out now

GRAPHICS: ●●○○○
Somewhere at the bottom of the second.

SOUND: ●●○○○
Not an away win all season.

ADDICTION: ●●○○○
Cries of 'Donkey!' round the stadium.

PLAYABILITY: ●○○○○
Match abandoned.

OVERALL VERDICT:
A not very good football management game that doesn't deserve your valuable second looks.

20%

We love the Amiga because it enables us to express our creative talents. *Amiga Format* is the shop window for that talent. These are, of course, the...

Reader Games

Skip this part of the magazine if you're interested in coding, or genlocking, or drawing, or anything serious and high-brow in fact. Here we just look at games and games alone. Games with a difference however, because you can't go out and buy these. Yet.

You'll notice we don't score these games – that would not be fair – we simply offer our thoughts and advice on how the games can be tweaked and improved. And most of the time we manage to refrain from giggling at the really awful ones.

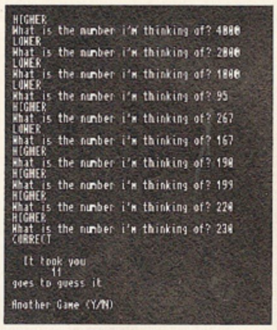
The really good ones are bound to attract attention and *Amiga Format* has an exclusive arrangement with Epic Marketing whereby once we've looked at 'em we pass them onto Epic who have a closer look at the best ones with a view to publishing them. But whatever happens every game mentioned in this section wins it's author an Epic CD and the month's best game wins an extra £50 worth of Epic CDs and £50 from *Amiga Format*. Now, surely, that is incentive enough for anyone to get coding. On with the show...

NUMBER 100

AUTHOR: CHRIS SEWARD
LANGUAGE: ARE YOU KIDDING?

It's always a treat when a game like this plops onto the office doormat. Obvious demonstrations of complete lunacy are what keeps Reader Games fresh and exciting. And this is as mad as the legendary text-only version of *Elite* we had a couple of months back.

It's also exactly the same as a Reader Game we featured back in AF86, called *Logic*. Like that, the idea is to simply guess a number that the computer has chosen at random from 0-10000. Suppose it's thinking of 16, you guess 2,500. It says lower. You say 4. It says higher. This goes on until you get to 16 and do it all over again.

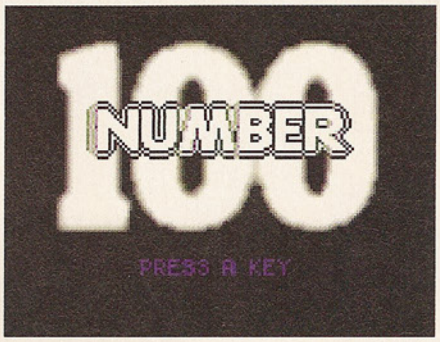


A screenshot. About as much fun as a pair of damp socks.

This is even madder than *Logic* though because it's a text-only jobbie again, there are no pictures of little men asking you what number their thinking of or scrolly text telling you higher or lower. Oh no, it's plain white text on a black background. In fact the only bit of polish is when you guess correctly and get a 'ping' sound effect as a reward.

The game reveals all its depth in less time than it takes to load and even that includes playing with the custom game where you can choose the number parameters the computer has to work with. But just try and stop playing it!

Chris says he is working on another game and we're just hoping he gets it finished quickly.



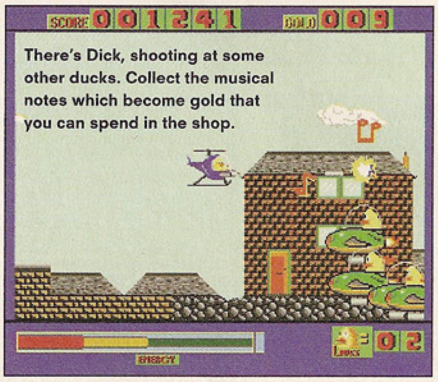
No, we're not kidding, this really is the best looking part of the game. Excited? You better believe it.

VERDICT: ALMOST A COMPLETE WASTE OF TIME. DESPITE THE FACT THAT ONCE YOU'VE STARTED YOU CAN'T STOP YOURSELF PLAYING! HAVING SAID THAT, THERE'S NOTHING TO RECOMMEND IT. GET A FRIEND WITH A PEN AND PAPER AND YOU CAN HAVE EVEN MORE FUN!

DICK DUCKY'S MYSTERIOUS FLIGHT

AUTHOR: GEOFF & JUNE MOORE
LANGUAGE: REALITY

The first of this month's Reality games is a shoot-em-up. The player controls a small blue helicopter (presumably piloted by Dicky Duck) through four sideways scrolling levels of baddies and bosses.



There's Dick, shooting at some other ducks. Collect the musical notes which become gold that you can spend in the shop.

The graphics are crude but functional and the sound effects are standard. In fact the only thing that makes the game anything other than completely ordinary is the inclusion of a shop. Each baddie shot drops a musical note which, when collected, becomes a gold coin in your bank. Hit the spacebar anytime during play and you can then spend your gold coins on a variety of power-ups. Nothing new or remarkable there really. But it all works fine.

It's an average shoot-em-up created using the Reality Software Construction Kit and from what we've seen of other Reality games the shoot-em-up bit is the best part. The games are never outstanding or innovative but they're shoot-em-ups like shoot-em-ups should be.

As with this month's other Reality game, *Dicky Duck* is merely a demonstration of the strengths and weaknesses of the construction kit used to create it. That doesn't mean don't send your Reality games in, just don't expect to see them covered unless they're vastly different from the games we've seen so far.



Dick meets his end in the shape of a grimacing mid-level guardian duck. Such is life.

VERDICT: ABOUT AS AVERAGE AS AN AVERAGE GAME CREATED USING THE REALITY KIT WOULD BE. KEEP UP THE GOOD WORK THOUGH FOLKS, AND KEEP THOSE REALITY GAMES COMING IN – EXTRAORDINARY ONES WILL STILL BE FEATURED.

THE LEGEND OF KAURAK KHOLZIL

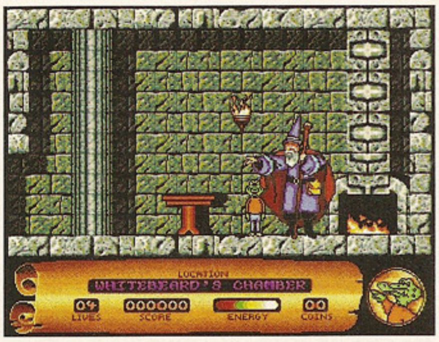
AUTHOR: NIAN DESIGNS
LANGUAGE: REALITY

This is the second of the games featured this month that have been created using the versatile Reality Software Construction Kit. This one's a platformer in the *Charlie Chimp* mould – and you wouldn't be able to tell it wasn't a *Charlie Chimp* game if it were not for the fact that the star of this game's a crocodile (Colin the crocodile, obviously).

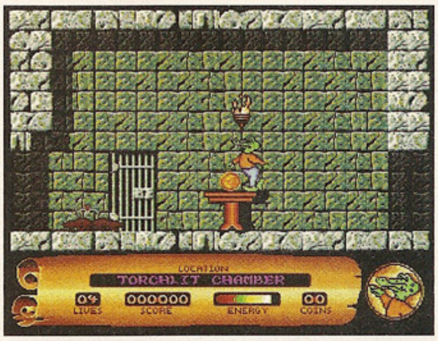
It's an OK game as well. Colin trundles around the large game area, collecting objects from here and depositing them there (usually to help someone out who then gives him something he's going to need somewhere else). The standard rats and bats are present as are a few novel baddies such as dragons, but they all fly around in their distinctive Reality patterns. In fact that's the whole thing about *Legend...* it's so obviously Reality created. That in itself isn't a bad thing, it's just that the medium doesn't have too much flexibility and consequently you're left with a game that's exactly like the dozens of other Reality created platform games. Still, the people behind this have worked hard to polish the gameplay. It works as it should and plays as you'd expect – not something that every Reality created game manages to achieve and the graphics are of a very high quality. All in all, a solid but uninspiring platform game that shows the team behind it have promise – despite the limitations of the kit.



The Reality 'not-really-very-good-picking-things-up' screen. Time to exit and don't drop.



Look! It's Colin the Croc. Who could just as easily be Charlie the Chimp in a game like this.



And ooh look! It's the rats that feature in just about every Reality platform game ever. Ho hum.

VERDICT: AN ADMIRABLE EFFORT THAT IS MARRED BY THE FACT THAT THE PACKAGE USED IT IT LIMITED. THE QUALITY OF THE SPRITES AND OTHER GRAPHICS AND THE WAY THE GAME HAS OBVIOUSLY BEEN RIGOROUSLY TESTED, SHOWS THE PROGRAMMERS ARE TALENTED AND DEDICATED.

FRED THE FROG



AUTHOR: ROBERT BENJAMIN
LANGUAGE: UNKNOWN

Have a look at the screen shots of *Fred the Frog*. Less than impressive aren't they? Hard to imagine why we've awarded it this month's prize isn't it? And, to be frank, we're not entirely sure either. *Fred the Frog* has gripped the office with its bizarre concept and gameplay however. Everyone's wanted 'just one more go' and the chuckles the game's given us have brightened the week. That is reason enough to award it the prize.

It's terribly easy to play too, all you do is move Fred left and right and make him jump to eat butterflies that flap slowly across the screen. Eat the required number of butterflies and move onto the next screen (where Fred's slightly bigger and can jump slightly higher). Eat the wrong thing and it's 'Boo hoo, Fred's dead' time.

But that's all there is to it. Just keep Fred jumping and avoiding the baddies. But there's something about it that makes you want to play it. It can't be the terribly simple gameplay or the less than impressive graphics – maybe it's just because it's fun. I know, I know, how on Earth can it be fun? Because it hits a raw nerve of addiction. We on Amiga Format have never been blinded by a game's graphic quality – witness last month's review of Vulcan's graphically lovely, but tedious to play, *Burnout* (AF95 40%) – we're interested in games that have a bottom line that says 'great fun to play'. *Fred the Frog* won't entertain for long but it's a giggle while it does.



Doesn't look like much does it? Still it not only had us laughing but actually had us playing the game for fun.



Little Fred at the start of his adventure. That brown thing is what he'd like to eat if he could jump that high.



It does mean in awarding Robert this month's prize that he'll have to change it into dollars!

VERDICT: LOOKS AWFUL AND IS TERRIBLY SIMPLE TO PLAY BUT IS A BLAST FOR A SHORT WHILE AND FOR THAT WE COMMEND IT. BUT PLEASE, ROBERT, DON'T EVER WRITE A GAME LIKE IT AGAIN!

Continued overleaf ➡

SUPER BREAKOUT

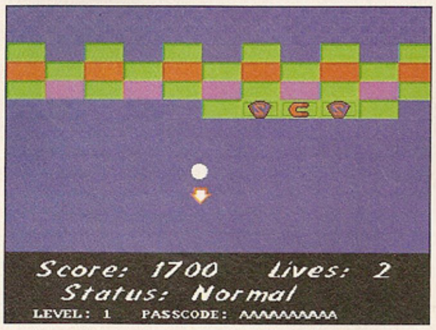


AUTHOR: JIM CLARK
LANGUAGE: AMOS

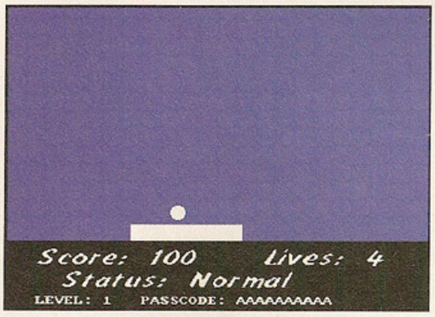
And as if to reinforce what was said about the last game, here's a *Breakout* clone that would normally be passed over for something in a genre that didn't feature so often in Reader Games. Except Jim has, as seems to be the pre-requisite of these authors this month, gone stark raving mad.

What's the one main constant with every *Breakout* clone? Would you agree that the game NEEDS to display the whole playing area as one screen? You know, bricks at the top and bat at the bottom that you move around shadowing the ball's movements as it bounces round the screen? Yeah, I would too. You've guessed it though, Jim thinks it's perfectly acceptable to have an enormous bat at the bottom of the screen, launch the ball, watch the screen scroll up as the enormous bricks at the top of the screen come into view and then watch the screen scroll down again as the bricks disappear and the bat comes into view. To be fair, Jim has included a small arrow icon which appears next to the ball when your bat's out of view indicating where on earth your bat is.

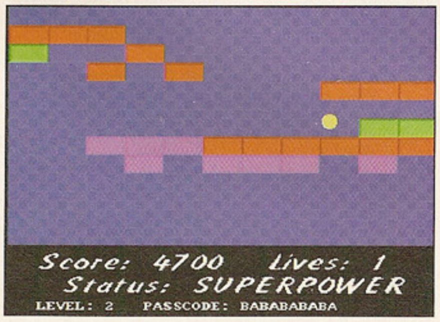
And the surprising thing? It works! The collision detection is a little iffy (both on the bat and the bricks) but it works well enough. Simple twists on established ideas are what innovation is all about. If this held together a little better it would have scooped the Star Prize. Don't stop now Jim, you're just getting started.



The top of the screen where the bricks live. The arrow points to where you've left your bat.



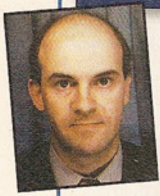
And at the bottom of the two screens lives the bat. Surprisingly, it actually works. And it's fun too.



Jim's even included power ups and bonuses. Here the ball's in brick-bustin' Superpower mode.

VERDICT: A BONKERS IDEA THAT ADDS A WHOLE NEW DIMENSION TO *BREAKOUT* CLONES. THE PROGRAMMING NEEDS A LITTLE TIDYING UP AND IT COULD DO WITH A BIT MORE POLISH GENERALLY BUT IT'S GREAT STUFF NONETHELESS.

GALAXIANS



AUTHOR: BARRY 'DINGO' DRIVER
LANGUAGE: BLITZ BASIC 2

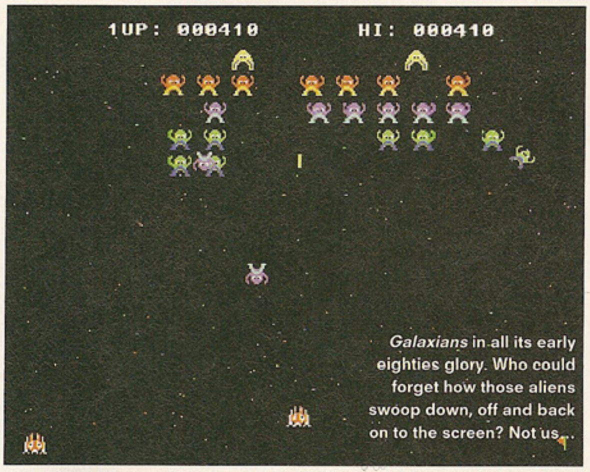
And to contradict everything that was said about the last game, here's another old fave that has about as many new twists as a Mills and Boon romantic novel. But again, this is an excellent game because it does exactly what it's attempting to do – re-create an arcade original on the Amiga. And well played to Barry because he's apparently coded this from his distant memories of the original.

Everything's as I remember it too. Swoopy, divey aliens, murderous changes of course as they come after you, more swoopy, divey aliens on the later stages, little flags to show how many 'sheets' you've cleared, the lot.

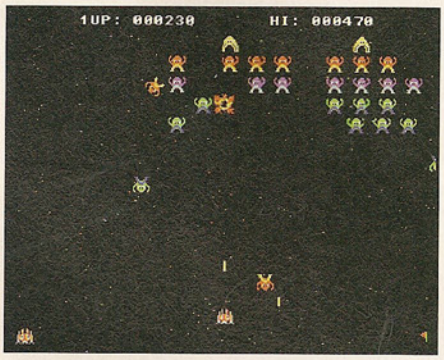
But one of the main reasons this oldie is included in this month's Reader Games is because it's the best of the bunch when it comes to sound. Not because the quality of the effects is particularly brilliant but because they're used as they should be. Whoops, whee's and booms all just where they should be and they go a long way to capturing the flavour of the original. Barry's even got the clunky side-ways movement of the aliens just right in combination with their smooth as silk flying down the screen movement.

But as seems to be the theme running through this month's Reader Games, let's not have too many early eighties arcade clones please – unless they're doing something the others aren't. Like paying better than average attention to sound in this case.

Just keep 'em coming folks. We enjoy looking at them as much as the commercial games!



Galaxians in all its early eighties glory. Who could forget how those aliens swoop down, off and back on to the screen? Not us...



Of course, the best bit was getting the yellow and red ones together and taking out only the yellow one.



VERDICT: LOOKS AS DATED AS IT SHOULD AND THE OLD SOUND EFFECTS ADD LOTS TO THE EXPERIENCE. TONS OF GAMEPLAY STILL, BUT NOT AN ORIGINAL BONE IN ITS BODY.

MORE OF THE SAME PLEASE!

Every game featured in our Reader Games section wins an Epic CD and the winning entry also wins £50 from *Amiga Format* and another £50 worth of Epic CDs.

Just a note of caution though: don't bother sending in that PD game you coded three years ago, we'll spot it and chuck it in the bin. After we've erased the disk for good measure.

And, once the game's been featured here, we'll be passing them all onto Epic Marketing who'll take a look at the good ones with a view to publishing them. There's nothing guaranteed but you never know – you might just get a phone call in a couple of months time. Please remember to make sure you put a contact number or address on any of your submissions and can you also enclose a recent photograph of yourself so that other readers can see who's responsible for the masterpiece that you have created. The address to send your entries to is:

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GameBusters

The place to come for cheats, hints and tips. And remember we'd very much like to hear from you, so if you've finished a recent game, mapped a tough level or found a groovy cheat, send it in to the usual address.



An asteroid yesterday. You can see our house from here. It's the one next to the sewage farm.

K240



Andrea, the text has gone funny. I can't see what's going on. Is it important?



Well, this is a picture of an installation. You can probably build one of these in the game.

We'd forgotten how good this game was until it got pulled out and dusted off one quiet afternoon a couple of weeks back. Although it's not the hardest game in the world there are some tricks and treats that can be employed to get the best from this classic. Give it a whirl yourself next time it's raining outside…

▼ To start with, the following procedure should become almost automatic as you start to build up your asteroids: build power supplies first, the 8Mw jobbies. Follow that with deep bore mines and normal mines. Fill in with a radiation filter, hydroponics, food plants, air supply generators and ore stores. Don't bother with environment controls or power stores just at the moment, but get 'em when you're really sure you can afford the extra expense.

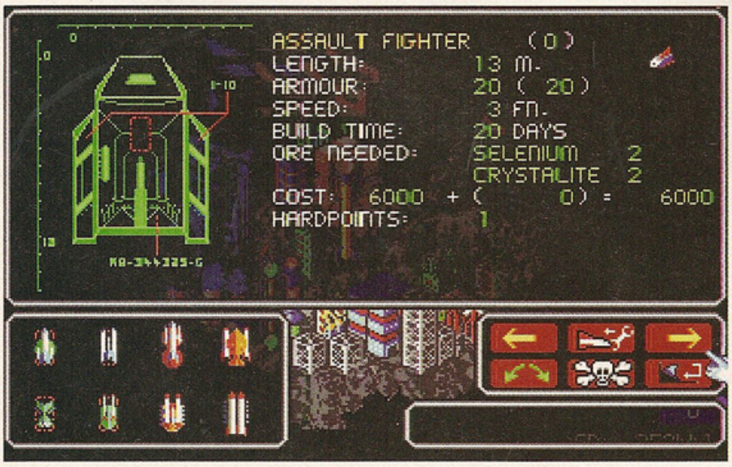
▼ As soon as you've taken care of the essentials, build a hangar, a weapon's factory and a command centre. These are essential because you're going to want to be building scout and fighting ships. The command centre is also needed because it allows you to build a spacedock and spacedocks enable you to build the bigger ships like transporters and fleet battleships.

▼ To get going in the game proper though, get acquainted with the Sci-Tek blueprints screen. Set aside 130,000 credits and buy the ordinary mine and deep bore blueprints. This doubles your output from these types of mine and soon pays for itself. Considering that the enemy is unknown, it makes sense to and find out where he is as soon as possible.

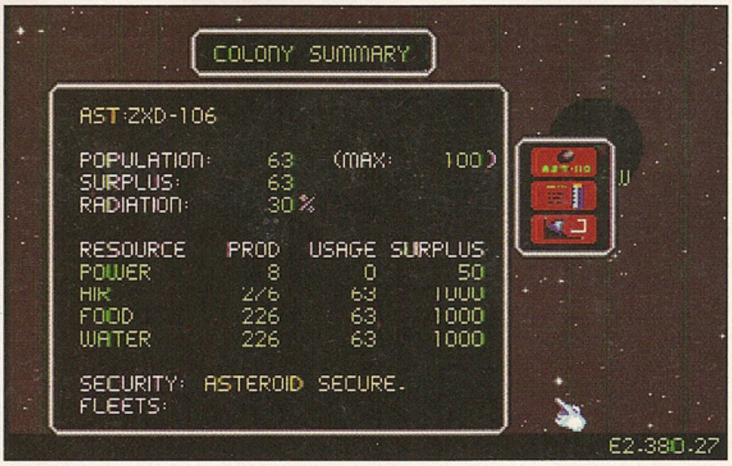
▼ Build as many scout ships as you can afford. Don't bother going to the trouble and expense of arming the things though – these ships are only going to be used for scouting and scouting alone. The Empire tends to send you fleets of better equipped ships anyway.

▼ Keep checking on all the mining production and things like that while you're waiting and as soon as you've got a couple of scouts built send 'em off into the furthest reaches to have a look-see. If they come across an asteroid on the way they'll come back and report it, so make a note of whether they reached their destination and if they didn't send them off in the same direction again.

▼ Once you've discovered several asteroids, survey 'em as soon as you can to see if they're worth exploiting.



This is obviously the place to come when you're ready to build assault fighters.



And when you need a quick summary of a colony on an asteroid you'll erm, come here.



Now then, that's a... erm, a...er...bus? See! There are two of them at once! They must be...

Don't colonise the first bunch of asteroids you survey though unless they're particularly rich in good ores.

▼ Colonisation is a costly and time consuming task so sometimes it's best to wait. Asteroids with Traxium and Nexos on them are always worth mining however because of the large sums of cash you can earn through exploiting them. Of course, you need the Seismic Penetrator to mine either of these pricey ores so buy the blueprints from Sci-Tek.

▼ Renaming asteroids is a lot more important than you'd imagine. As soon as you've colonised more than three or four you're going to forget what mineral or function the asteroid is supposed to be fulfilling. Click on the CPU and you'll see three little icons to the right of the pop up panel and it's here you can name the asteroids with useful names like 'Lots of Traxium', or 'Home base' and things like that. This really is a useful way of keeping track of what you're doing, where.

▼ It's also very useful to assign them to function keys. This lets you jump to any colonised or uncolonised asteroid in a jiffy.

▼ You can even think about the function keys when you're renaming the asteroids, for example 'LotTraxF3'. This becomes very handy on the asteroid map screen.

▼ Follow the above simple guidelines and you should become familiar with the game mechanics and requirements – money saving gizmos such as power amplifiers, repair and construction droids, accurate missile targetting and so on. You'll probably be itching to give the enemy a good hiding so set up a couple of fleets.

▼ Arm one fleet with chaos bombs, static inducers and heavy shields and assemble the other as an attack fleet for space combat. This ensures that your bombers should be mostly undisturbed as they reduce the enemy's buildings to piles of rubble.

> "As you dispatch your fleets, fire off a whole load of cheap missiles at the target asteroid."

▼ As you dispatch your fleets, fire off a whole load of cheap missiles at the target asteroid. This will soften up the target a bit – making the job of destroying it a whole lot easier.

▼ There you go, now search out that old copy, follow the hints above and give yourself a pleasant afternoon in front of the monitor...

Continued overleaf ➡



So the, er, buses departed. Full of colonists or something. My, don't you own a lot of CDs?

HELPING HANDS

RICK DANGEROUS II



I love this platform game but find it's murderously difficult in places. I keep persisting but get fed up after a while, have you got any tips that can make the task less demanding for me?

Andrew Trollope
King's Lynn

We have just the thing for you Andrew. On the high-score screen type in either POOKY or JE VEUX VIVRE and you'll find you've got infinite lives! Hurrah!

DUNGEON QUEST

Help, help, help. I've been playing this game for years and just can't seem to get anywhere.

Alasdair Nicoll
Abernyte

To get into the castle, collect the rocks from the first screen, after leaving the ferry, by typing 'Search' then 'Get Rocks'. When you get to the castle's moat and see the drawbridge, type 'Chuck Rock' and the drawbridge will open.

OPERATION STEALTH

Please help me. I've been wondering what I'm supposed to do with the CD in this game. Can you tell me?

Dean Wilson
Moreton-in-Marsh

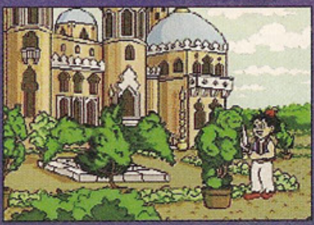
In the control room, wait for the razor to give the message 'Explode, one, two...' and quickly use the red cigarette on the computer. It will then explode whereupon you should operate Otto. Use the CD on the laser-reader and head for the door to the top left (you've not far to go now Dean...).

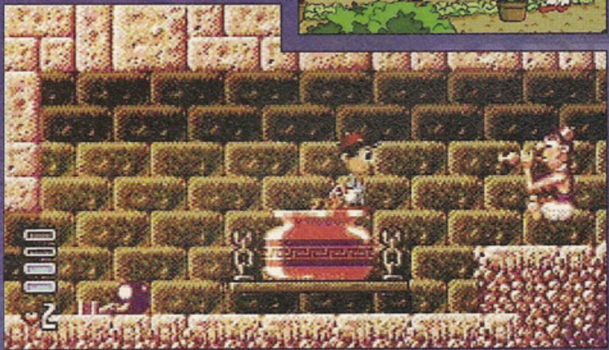
ARABIAN KNIGHTS

I've enjoyed playing this game for donkeys years. I can't complete it but don't want you to give me a complete solution. Have you got some sort of tip that would help me though?

Dave Green
London

Try using these cheats to get you through: To skip levels, type SIMEON on the title screen and press TAB. Also, try keeping the left AMIGA key pressed for invincibility and P for slow motion.





LEND A HAND

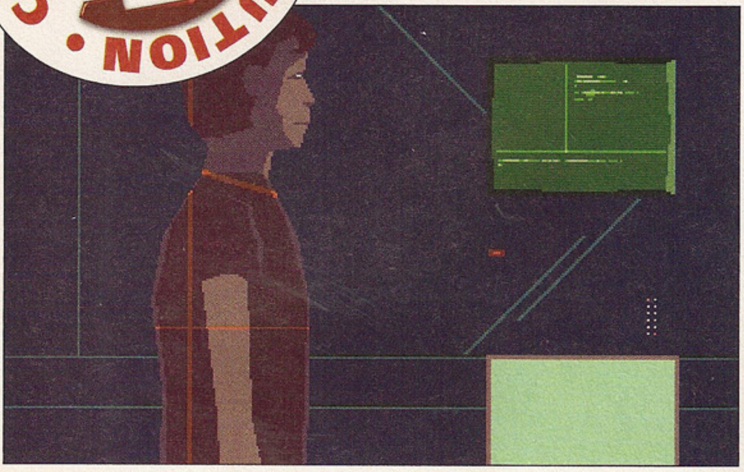
If you're having trouble with a particular game or have a solution to a question in the magazine, don't keep it to yourself, write it down or send it in on a disk and we'll do our best to print it.

HELPING HANDS
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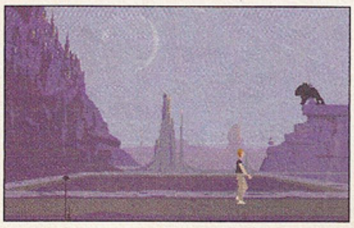
ANOTHER WORLD

COMPLETE SOLUTION

If space travel's in your blood you'll be pleased we can help.



'Please remove your card. Your cash is being counted. Would you like a receipt?'



Oi! Barkie! Get down here right now. Don't go howling at moons like that!



No, the stick's here, where my toe is you stupid mutt. I'm getting a cat next...



The Red Arrows perfect their 'not very close together' formation flying routine.

Start by going left (taking notice of the dangling vine as you go past) and continue past the water to where the three 'things' are. Use your kick to defeat 'em and continue right where you'll have to fight some more creatures. Once again, kick 'em to kill 'em and mind out for the ones that fall from above.

▼ Now head right until you meet the thing that looks like a mutant black panther and run to the left – back to where the vine is hanging – and take a running leap at the vine (without stopping) then leap off the vine to the right – past where you first saw the panther thing. You should now be in a cage with an alien.

▼ To get the cage to drop, rock it right and left until it does so then grab the gun and head right quickly (ensuring the alien is fine), firing at any guards on the way. While the alien opens the door, you can safeguard him using the shield.

▼ Follow the alien via the door to the lift and take it to the bottom level.

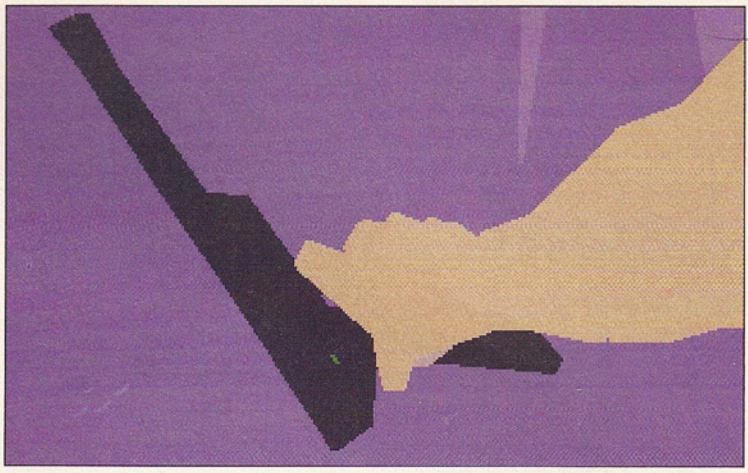
▼ Here, walk to the end and take out the little flashing light on the wall.

▼ Use the lift to go up a level, fire at the door and then run and leap up. Next, wait until the alien catches up and then open the door and enter.

▼ In the small tunnels underground, go left, drop, right, drop, right, drop, left, drop, right, drop and exit.

▼ At this point move left through the door where you charge the gun.

▼ Now fire through three doors and head right quickly to exit.



A gun. Don't take this to town. Keep it handy throughout your adventure though because there are many baddies who are gonna try and stop ya. A taste of lead should stop 'em.

▼ Knock off the guard and go to the end of the bridge.

▼ Jump onto the lower ledge on the right, blow a hole in the wall and enter.

▼ Move right and take the first shaft downwards, then go right again and downwards onto the big rock.

▼ Leap right then move right and leap over the spikey pit.

▼ Now go to the following screen and wait a few seconds for the boulder to come crashing to the floor, then move with all haste to the small spike on the floor – taking care to avoid the chap flying through the air.

▼ Once the two boulders drop together onto the floor, exit quickly. This rock stuff happens all over again on the next screen. Avoid the tentacles by either shooting them or running past 'em.

▼ Keep going right and there will be some more tentacles to avoid. There are some traps here that need to be avoided by jumping over them.

▼ Head right until you come to the end and then fire at the wall.

▼ Head back to where the falling boulders were and climb up the slope.

▼ Fire at the flying baddie, move onto the next screen and take note.

▼ Now make a running leap at the stalactite (remember folks: tights come down and mites go up!) and climb to the top, then leap to the next one. Repeat this until you come to a huge rock.

▼ Go left, off the rock and turn round and fire at it. Then walk up the rock and head right – leap over three pits in total.

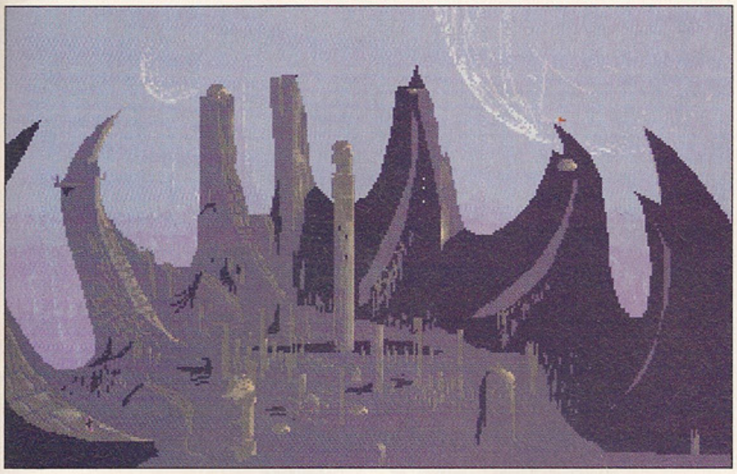
▼ Now go right and fire at the wall until you release the water.

▼ Next, turn and exit very smartly (jumping over the pits). Now you can move right, blasting the wall, past the steps and along the now empty waterfall. You should now see the captured alien below.

> **"...make a running leap at the stalactite (remember folks: tights come down and mites go up!)"**



See that bloke at the front? Well it would be easy to say he looked like Andrea's or Cathy's boyfriend, but we're more creative here at *AF*. He actually looks like a publisher we know...



Yikes. This ain't Kansas. It could well be a part of Swindon though. Or Wakefield. It's actually an alien golf-course. You can tell by the pin flag on the top of the second spike on the right.

▼ Turn left over the waterfall and enter through the door, go down the steps and right then take out the guard.

▼ Now go back up the stairs and fire at the chain, thus releasing the alien. Now move down the steps and go right as much as you can, kicking the guard and sprinting along to take the gun – you should now be able to knock him off to the right quickly and avoid the other guards.

▼ Jump into the water and swim along to the other side. Take note of your surroundings once you get out.

▼ Get back in and swim downwards to where the hole in the wall is, then left along the tunnel. Head up for some air when you get to the second shaft and go right to the bottom of here and head right. Get out and take a breather and blast away at the vibrating line.

▼ Now retrace your swim back to the top of the water. Head left, knock off the guard, then right, up the stairs and knock off another guard to your left, leap across right and fire at the two doors and once the shield vanishes blast at the third one.

▼ Jump the resulting fireballs and kill the guard.

▼ Next move right, fire at the door then right again and leap up to charge your gun.

> "Fire at the door, sprint to the corridor's end, turn around and create a shield."

▼ Head right (note the guard's reflection on the bottom sphere – fire at it once the reflection is right underneath it).

▼ Go left to the stairs then down the stairs, down and right and you should be at the water.

▼ Swim across and when you get across the guard will be dead. Now walk right.

▼ At the opening, leap downwards and walk right. Fire at the door, sprint to the corridor's end, turn around and create a shield.

▼ Now wait for the alien to give you a hand up. Keep on the left side of the opening until the boulders fall.



Look, you tell the art people to find some grabs that will help make the game look more inviting as well as making the pages more interesting to look at and they come up with this!

Now accompany the alien into the tank. To get away, push the top left button (green).

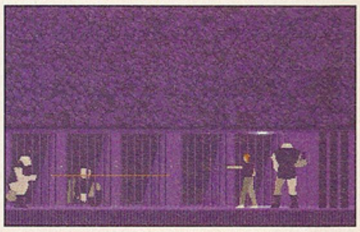
▼ To get out of the pod, go onto the next screen, dispose of the guards, run right.

▼ Now all you have to do is sit and leave the machine in drive. Get on your knees and go over to the right to the levers.

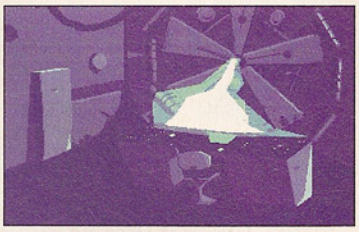
▼ When the guard heads over your way, use the levers to dispose of the laser, now pull the second lever, crawl over to the light circle on the floor and you'll be free.

▼ There you go folks, that's just about all there is to it but if you don't manage to follow the guide, try these passwords:

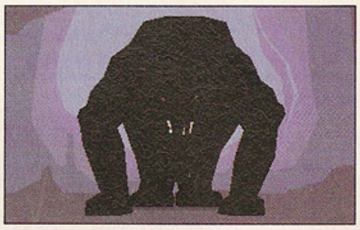
▼ Level 1	EDJI
▼ Level 2	HICI
▼ Level 3	FLLD
▼ Level 4	LIBC
▼ Level 5	CCAL
▼ Level 6	EDIL
▼ Level 7	FADK
▼ Level 8	KCIJ
▼ Level 9	ICAH
▼ Level 10	FIEI
▼ Level 11	LALD
▼ Level 12	LFEK



Take this red line, you publisher type you. And there are plenty more where that etc.



Disaster at a Tate and Lyle factory. Whoever was supposed to be on watch is in trouble.



Look, it's a picture of................................ (add your own name above).

FEARS

Level codes:

▼ **Level 1 6D7FBC0F** ▼ Level 2 6DFBBC0F ▼ **Level 3 6C77BC0F** ▼ Level 4 6CF3BC0F ▼ **Level 5 6F6FBC0F**

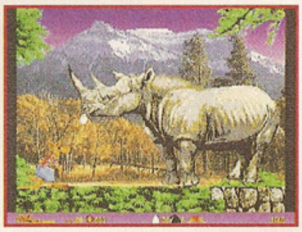
KANG FU

Try these when you're asked for a password:

▼ **WALLY** ▼ BONGO ▼ **KLAAS** ▼ LONDO ▼ **RIKEL** ▼ MARVO ▼ **GILKA** ▼ GROND ▼ **GLIES**



Crap kangaroo, crap game. Still, now you can finish it double-quick time!



And then you'd have no reason to play it ever again! Aren't we kind...

SMALL APOLOGY

As pointed out by Darryll Christian himself, our *Valhalla – The Fortress of Eve* codes weren't printed correctly in *AF94*. We meant to say (it was probably changed by one of the art people because they're like that):

Level 3 – TOHOT

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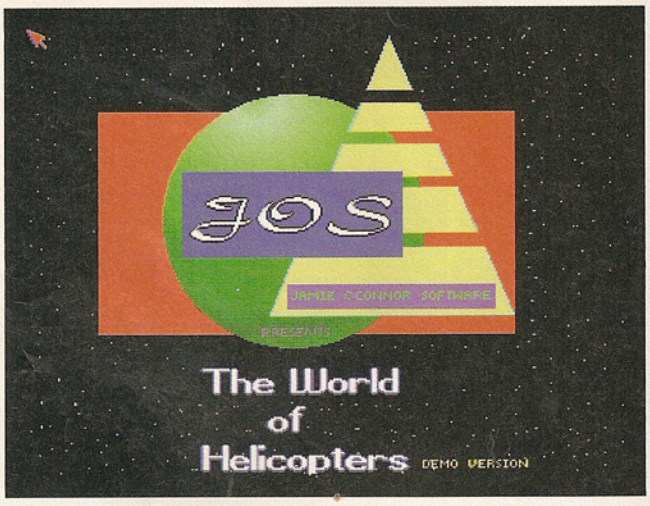
PDselect

Dave Cusick sifts through the PD sack once more in search of the best in budget software.

WORLD OF HELICOPTERS

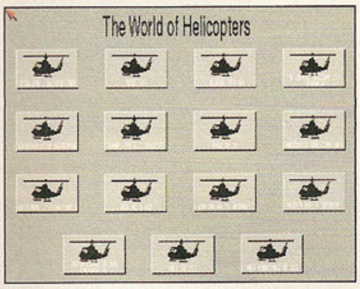
By .... *Jamie O'Connor*
Ware .... *Shareware*
PD Library .... *OnLine PD*
No of disks .... *One*
Price .... *75p + 75p P&P*

A well constructed and competent program – but you need to love helicopters.

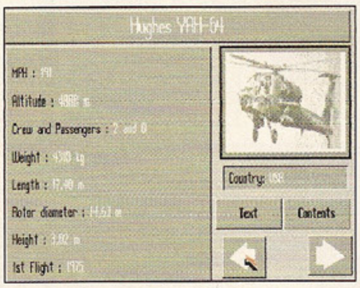


The great strength of the Public Domain is its diversity; there is something for everyone out there, no matter how bizarre. If reading about the production history of the Sikorsky 564 Skycrane is your idea of a good time, then your name is probably Jamie O'Connor. If by some strange freak of nature that isn't your name, you will love this disk.

All the old favourites are there – the B-Vertol Boeing, 234 Chinook, the Hughes YAH 64... – complete with vital statistics, a paragraph or two of text describing their conception, development and service, and a small black and white picture. Actually, they're not all complete, because *World Of Helicopters* is Shareware, and to receive a full version of the program you must send the author £3. However, there are enough complete records here to give you a taste of



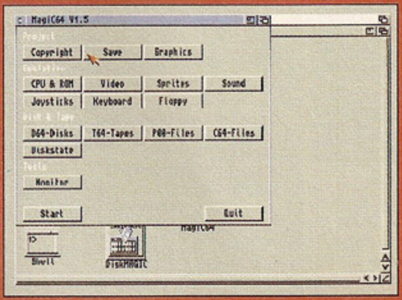
Simply choose which model of helicopter you want to find out about...



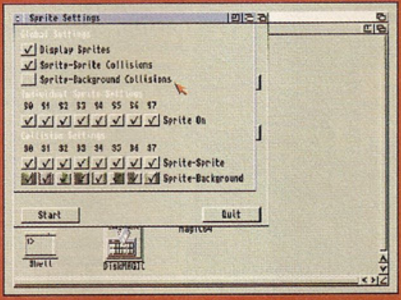
...and hey presto – a small picture, some vital statistics and a few lines of text.

PDselection of the month

MAGIC64 V1.5



MagiC64 offers you plenty of options ranging from joysticks and sound...



...and including things like sprite settings to give you maximum configurability.



The only drawback is the necessity for an '020 processor and 3Mb of memory.

By .... *Michael Kramer*
Ware .... *Shareware*
PD Library .... *OnLine PD*
No of disks .... *One*
Price .... *75p + 75p P&P*

Hands up if you remember Commodore. Yes, although they might now seem like just a distant memory, they were the chaps responsible for buying what would eventually become the Amiga project out from under the noses of Atari way back in the mid 1980s. Commodore never ceased to amaze with what might politely be called "interesting" approaches to advertising and research and development, and they later managed to astound everyone still further by getting into serious financial trouble, despite having dominated the home computer market for years with the A500.

Before everything went pear-shaped for Commodore, it was still possible to get your hands on their earlier favourite, the C64. In the heady days of 8-bit computing the C64 was a powerful beast, packing more RAM than its competitors and with impressive graphical and audio capabilities for its time. Many current Amiga owners began their computing careers with a C64.

If you hanker after those halcyon days or simply want to find out what all the fuss was about, then MagiC64 is for you. Capable of loading C64 programs saved in a variety of emulator file formats, and offering more options than your local Ford dealer, this is one of the most comprehensive, compatible and configurable Commodore emulators around. This is reflected in the 30DM registration fee and also in the hardware requirements – MagiC64 needs at least an '020 processor and 3Mb of memory, and for emulation at something approaching full C64 speed a fast '030 is recommended.

what to expect should you feel compelled to register.

I don't mean to be too scathing – to be fair *World Of Helicopters* is competently put together. The problem is that it doesn't offer anything awe-inspiring enough to interest anyone who does not already have a penchant for rotors (or some such sad affliction). It is perfectly reasonable within its rather limited field, but don't expect too much.

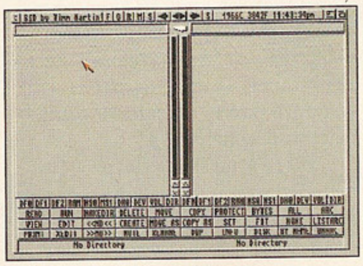
MESSY SID 3

By........Patrick Downes / Jeff Tullin
Ware ....Shareware
PD Library ....North Staffs PD
No of disks ....One
Price ....50p + 75p P&P

Messy SID is a useful combination of utilities which may well prove invaluable to owners of Workbench 2 machines. SID itself is a directory utility which has been knocking around the Shareware circuit for some time, and which is included here in its second incarnation. This disk manages to blend the file handling power of SID with Messydos, which allows your Amiga to read and write IBM format disks. (Owners of WB3 machines don't need Messydos because they will already have CrossDos).

Patrick Downes, who developed Jeff Tullin's original Messy SID disk into this form, says that he has tried to make things easy enough for a near beginner to understand and yet flexible enough for the advanced user. To be honest I doubt that an Amiga novice would really find installation a straightforward process, not least because the documentation supplied on the disk is patchy, fragmented and sometimes confusing.

Nevertheless, with a little bit of fiddling, it should be possible to get Messy SID up and running reasonably swiftly. Once everything is set up, you will be able to read from, and write to, PC disks in either the internal or external floppy drives simply by addressing them as MS0: or MS1:. You will now have the full power of a decent directory utility on hand to help maximise the potential of your multi-format drive.



Messy SID: A combination of utilities enabling you to deal with PC disks.

SUPER BLOBBLE 2

By ....Vector 7 Software
Ware ....Shareware
PD Library..Classic Amiga Software
No of disks ....One
Price £1.00

A few years ago there was a commercial Amiga game by the name of *Blob* in which the objective was to guide a cute sphere around various floating tile maps, collecting various bits and bobs along the way. *Super Blobble 2* is an unashamed clone, but that is no bad thing.

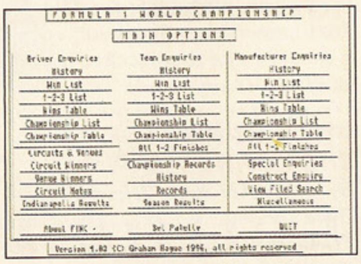
Our blobular hero has to contend with tiles which disappear when trodden on, one way tiles and numerous other fiendish traps, so a good deal of thinking and planning ahead is necessary if you are to successfully negotiate a level. Fortunately there is a password system, so that once you have completed a particularly tricky stage you will not have to struggle through it again. There is even a map editor included, so should you manage to complete all the pre-designed levels you can still carry on super bobbling.

With attractive graphics and engaging gameplay, this is an extremely entertaining puzzler. If the dreadful music will have you reaching for the volume control within seconds, it is a small flaw in an otherwise highly enjoyable game. Besides, the registered version apparently features new music, which gives you an added incentive to cough up the Shareware fee. For your £6 you'll also be getting 40 levels and 20 bonus levels to test your blobby prowess, and for a game with such longevity that is definitely not bad value.

FORMULA ONE WORLD CHAMPIONSHIP 1996

By ....Graham Hague
Ware ....Freeware
PD Library ....OnLine PD
No of disks ....One
Price ....75p + 75p P&P

This disk contains a wealth of Formula One statistics, covering all 597 races which have taken place since 1950 and featuring 175 driver records, 101 team records, and details of 60 circuits in 27 different venues worldwide. Unlike the *World Of Helicopters* disk reviewed above, *F1WC96* manages not only to be mind-bogglingly comprehensive, but also lays out its extraordinarily wide-ranging selection of stats in an extremely clear if not especially spectacular manner.



F1WC96: An all-encompassing guide to all things Formula One related.



An obvious clone but still definitely worthy of a long look.

You can trace the careers of notable Formula One drivers from the legendary and much missed Ayrton Senna to the rather less well known Giancarlo Baghetti, whose only top three finish was at Rheims in France back in 1961 whilst driving for Ferrari. You can examine the splendid record of that super-successful Italian team, which has amassed a stunning 103 wins, 139 seconds and 128 thirds, or you can laugh at the likes of the Bob Estes team, whose greatest achievement was managing a third in May 1956.

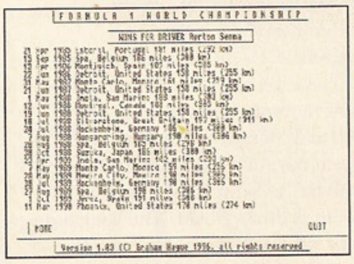
A further miscellaneous records section includes other interesting stats; the record for the most successive pole positions (established by Williams from 1992-3, when I was an avid Formula One fan) is 24, the most frequently used circuit in F1 history is Monza which has staged 46 Grand Prix races, and so on.

Frighteningly detailed, *F1WC96* will obviously hold most appeal for ardent F1 statisticians, but it is mysteriously engrossing even for those who wouldn't normally dream of poring over facts and figures for hours on end.

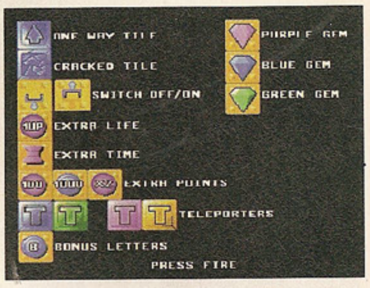
ONFORM V2

By............................Paul Lathwell
Ware ....Shareware
PD Library ....North Staffs PD
No of disks ....One
Price ....50p + 75p P&P

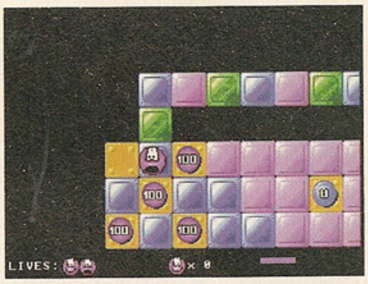
Continued overleaf ➡



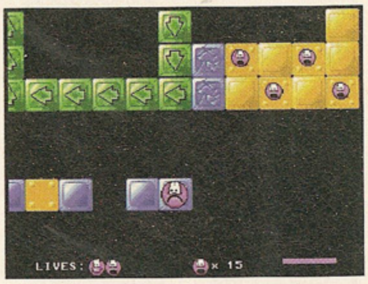
F1WC96: Discover exactly when and where the great Senna was victorious.



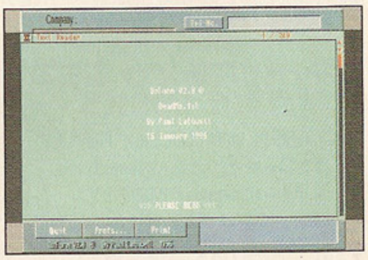
Familiarise yourself with the different tiles before embarking on your blobular fun.



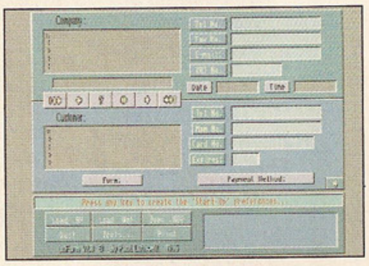
As you can see, your blob will let you know if he's feeling unhappy!



At this stage we can safely say that he's mighty peeved off.



Onform: Unfortunately, the colour scheme can make things a little confusing...



...but there are enough features to make *Onform* genuinely useful for invoicing.

TOP 10 PUBLIC DOMAIN TITLES

1. Microlyte Warrior
2. MUI v3.6 (AF93)
3. Vulcan
4. Filequest (AF94)
5. Games Blaster
6. Birthdate History (AF93)
7. Vark 15 (AF92)
8. Virus Mixed Bag (AF94)
9. Mine Runner (AF94)
10. T.U.D.E

Top 10 courtesy of: ONLINE PD 1 The Cloisters • Halsall Lane • Formby • Liverpool L37 3PX • 01704 834335

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NORTH STAFFS PD
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Stoke-On-Trent
Staffs ST1 2JY
01782 279670

ONLINE PD
1 The Cloisters
Halsall Lane • Formby
Liverpool L37 3PX
01704 834335

OTHER GOOD PD LIBRARIES

OnForm is, according to its author, "the leading invoice/order form printing application on the Amiga". This considerably restricted demo version is designed to persuade you to shell out a fiver to register for the full program.

Before you can really use *OnForm* it is necessary to create three small preference files for the program to use. This is achieved using a special module which is automatically launched the first time the program tries to access one of the files, and which guides you through the process relatively easily.

OnForm is a reasonably accomplished program with sufficient options to make it genuinely useful as an invoice creation tool. However some aspects of the program can occasionally make it seem a trifle unfriendly. The non-standard interface is a little quirky, even allowing for the fact that *OnForm* was written in Amos, and sometimes data needs to be entered in a very specific manner where a degree of flexibility would have been appreciated. The dreadful colour scheme can also rather confuse things at times.

The main problem with *OnForm* is that it is not instantly accessible, partly because of the interface and partly because the documentation is rather fragmented. However, anyone running a small business, who has the patience to become familiar with the way things must be done should find that *OnForm* proves a sound investment.

VIRTUAL MEMORY MANAGER V3.3

By ....*Martin Apel*
Ware ....*Shareware*
PD Library ....*OnLine PD*
No of disks ....*One*
Price ....*75p + 75p P&P*

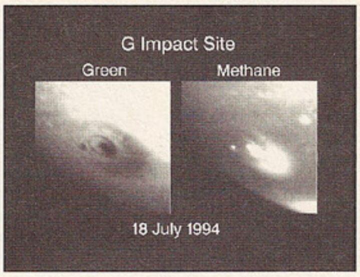
Compared with certain other platforms I could mention, the Amiga is an extremely memory-efficient computer. There are not many systems which could handle running a decent GUI, a TCP/IP stack, a Web browser and an FTP client simultaneously in less than 6Mb of memory. But the thing about memory is that you can never have too much of it and, despite RAM prices plummeting, a hefty helping of memory will still make a significant dent in your finances.

An alternative solution to the low-memory blues is to employ Virtual Memory; in other words, to treat part of a large physical memory media (ie. your hard drive) as if it were ordinary RAM. The Amiga does not support Virtual Memory as standard, but using *VMM*, Amigas equipped with a Memory Management Unit (MMU) and at least WB 2.1, can now give it a whirl.

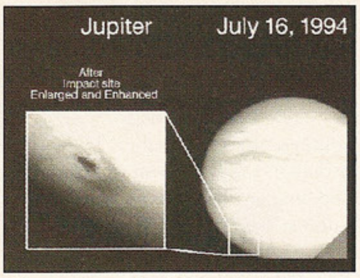
It is simple to setting up *VMM* to treat up to 512Mb of your hard drive as if it were RAM – it swaps out data to a whole partition, a large file or a sort of hybrid pseudo-partition depending on your preferred settings. The only real disadvantage of using Virtual Memory is the slower access speed which this swapping and writing process results in.

Included on the disk are a few small utilities. *VMMInformer* and *VMMStat* both display information about the current system settings, whilst *Memory Device* allows you to use regions of slower 16-bit RAM as swapping out space.

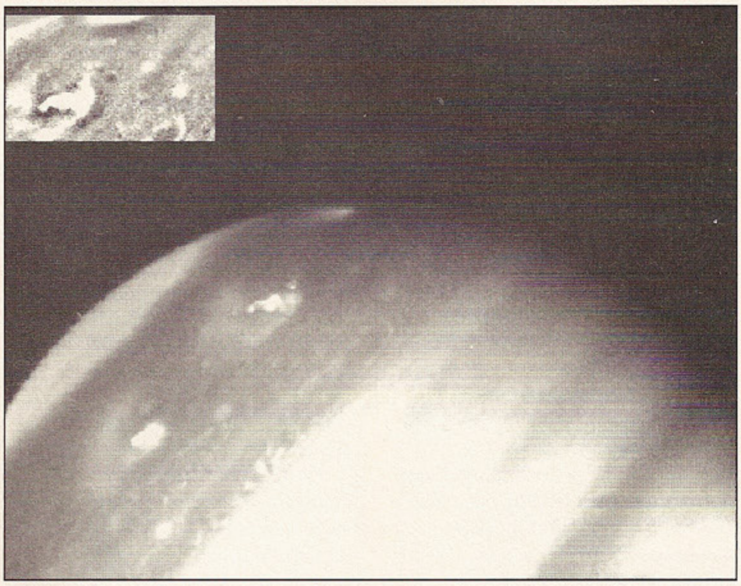
Although *VMM* is not disabled in any way, since it is Shareware, if you continue to use it you are obliged to send the author 30DM for his efforts. For such an outstanding program this represents excellent value, and it is certainly a lot cheaper than buying an extra memory board.



All of the 19 pictures were taken by the Galilleo...



...in July 1994 when it passed close to the planet Jupiter.


You don't have to be interested in astronomy to realise how important these pictures are – some of them also come with brief explanatory text files.

HUBBLE PICS: SHOEMAKER LEVY 9

By ....*Hubble Space Telescope Team*
Ware ....*Freeware*
PD Library ....*OnLine PD*
No of disks ....*One*
Price ....*75p + 75p P&P*

Edwin Hubble was an important American astronomer who lived from 1889 to 1953. He was responsible for discovering the Red Shift in the light from distant stars, which in fact helps form the basis of the Big Bang Theory, and for giving us a constant which enables us to place an approximate age on the universe of between 10 and 20 thousand million years. Although I didn't know anything about the bloke before looking him up in the Reader's Digest Illustrated Dictionary of Essential Knowledge about ten minutes ago, it seems that naming a space telescope after him was the least we could do.

This disk contains a selection of pictures obtained by the Hubble space telescope and Galilleo when it passed close to Jupiter in July 1994, just as the Shoemaker-Levy comet began to break up in its atmosphere. Some of the 19 Jpeg pictures come with brief text files explaining their significance, which range from colour photos to technical-looking black and white things.

There is no slideshow program included so you will require a decent Jpeg viewer – I'd recommend *FastJpeg*. Even from a non-scientific viewpoint these images are rather amazing and well worth a look.

Amiga Mice

Replacement Mice £6.95
MegaMouse 400 ....£9.95
MegaMouse Plus (3 Button) £10.95
Optical Mouse £29.95
New Golden Image TrackBall...........£19.95
Pen Mouse ....£12.95 (ideal for CAD)



Ram Boards

RAM CARDS A1200

A1200 with clock and 4Mb £49.00
A1200 with clock and 8Mb £65.00
A1200 with clock, 8Mb & 33Mhz FPU ..£80.00

RAM CARDS A500/500+ & A600

A500 512K w/o clock £15.00
A500+ 1Mb w/o clock £20.00
A600 1Mb w/o clock £20.00
A600 1Mb with clock £30.00

Controllers

AlfaPower Hard Drive controller A500 ...£99
AT-Bus Hard Drive controller A2000 ......£69
Oktagon 2008 SCSI controller £99
Multiface III £79
PCMCIA Controller for CDRom for A1200 £69

Spider

NEW MULTI I/O CARD

FOR AMIGA 1500/2000/4000

Active 8 port high speed serial card. Multiboard Support 57600 Baud rate on all channels simultaneously. **£299**

New AlfaQuatro Buffered Interface

Specially made hardware and software. Allows 4 ATAPI devices, ie, 2 IDE hard disk & 2 IDE CD Rom to Amiga 4000 internal IDE controller, through Alfapower on Amiga 500/500+ and possibly Amiga 1200, comes with full IDE Fix software **£59**

Joysticks & Joypads

Amiga Joysticks **£9.95**
Amiga Joypads **£9.95**

Speakers

Multi Media Speakers 100 watt (pmpo) £30.00
Multi Media Speakers 240 watt (pmpo) £45.00
Multi Media Speakers 300 watt (pmpo)* £59.95
** 3D surround sound*

92% AUI



Winner of Gold Format Award in Amiga Format February 1997

Best pricing on CD ROM Drives & Hard Drives.

We can supply CD ROM solutions for ALL Amigas from A500 to A4000. We will match any genuine advertised price and also give free CD Cleaner on top where we have to price match any product.

All our External IDE CD ROM Drives have built in power supplies (they do not draw power from your Amiga)
Three different options to connect CD ROM drives to A600 or A1200

a) Use PCMCIA port for total external solution without opening up your Amiga. You can Hot plug this device without harming your Amiga.
b) Use Internal IDE port with AlfaDuo if you have 2.5" Hard Drive (will be with full IDEFIX software).
c) Use Internal IDE port with AlfaQuatro buffered interface if you have 3.5" Hard Drive (will be with full IDEFIX software).

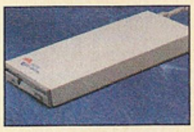


All CD ROM drives have play CD facility. Audio connection at front as well as at the back. Metal casing.

	External A600/A1200	Internal A1500/A2000	External* A500/A500+	Internal A4000
Quad speed CD ROM for	£149.00	£119.00	£129.00	£109.00
Eight speed CD ROM for	£169.00	£139.00	£149.00	£129.00

*(for A500/A500+ Alfapower hard drive controller and Hard Drive is required). A1500/A2000 supplied with IDE controller & software. A4000 supplied with AlfaQuatro interface & Full IDE Fix software.

Floppy Drives



External Floppy Drive for all Amigas......£39.95
Internal Floppy Drive A500/500+ £35.00
Internal Floppy Drive A600/1200+ ...£35.00
A-Grade Double Density box of 50 disks......£13.00
including colourful labels

IDE Hard Drives

HARD DRIVES + AT-BUS CONTROLLER FOR AMIGA 500(+)/A1500/A2000/A3000/A4000

AT-Bus hard drive controller £69.00
Alfapower hard drive controller £99.00
Alfapower-640 640Mb hard drive £199.00
Alfapower-1.2G 1.2Gig hard drive £259.00
Other sizes please ring



IDE 2.5" Hard Drives

IDE 2.5" Hard drives come formatted and installed with Workbench. Cable, screws, software and instructions supplied. *(please ring for availability)*

60Mb	£59.00	250Mb	£99.00
80Mb	£69.00	340Mb	£109.00
★120Mb	£70.00★	420Mb	£119.00
170Mb	£79.00	540Mb	£129.00

IDE 3.5" Hard Drives

IDE 3.5" Hard drives come formatted and installed with Workbench. Cable, screws, software and instructions supplied. *(please ring for availability)*

640Mb	£99.00	1.7GIG	£179.00
720Mb	£110.00	2.1GIG	£219.00
840Mb	£125.00	2.5GIG	£239.00
1.0GIG	£159.00	3.2GIG	£Call
★1.2GIG	£165.00★	3.8GIG	£Call

Memory

4Mb Simms	£20.00	16Mb Simms	£60.00
8Mb Simms	£30.00	32Mb Simms	£150.00

Scanners

800 dpi £79.00
800 dpi with full OCR (last few so hurry) ...£99.00
400dpi with Migraphs acclaimed Touch-Up, Merge-it and full OCR...........£119.00

Miscellaneous Products

44pin 3 connector cable £10.00
44pin 2 connector cable £5.00
40pin 3 connector cable 90cm £10.00
AlfaDuo 44pin to 40pin Interface & IDE cables...£20.00
AlfaQuatro 3x40pin buffered interface & IDE cables £39.95
DD floppy disks (50) *including multicoloured disk labels* £13.00
DD floppy disks (100) *including multicoloured disk labels* £25.00
3.5" Hard Drive Kit for A600/1200 *+ Install software* £15.00
Colourful Mouse Mat Animal Jungle design and Dinosaur design ...£5.00
Optical Mouse Mat £5.00
2 in 1 Scanner/Mouse Pad *Can be used as a memo pad* £5.00
Contoured Wrist Pad..............................£3.00
Plain Wristrest £2.00

CD Cleaners - 1/2 price

CD Rom Cleaner £3.00
Automatic CD Rom Cleaner *(battery powered)* ...£10.00
Laser Lens Cleaner £4.50

Accelerator Boards

1230 33Mhz + 4Mb £135.00
1230 33Mhz + 8Mb £145.00
1230 33Mhz + 16Mb..................£175.00
1230 50Mhz + 4Mb £179.00
1230 50Mhz + 8Mb £189.00
1230 50Mhz + 16Mb..................£219.00

All prices include VAT. Please add £3.50 P&P for items under £30.00, £5.00 for items over £30.00, £8.00 P&P for Scanners, Speakers & Hard Drives, £10.00 courier for next day. Tax Free Export Orders Welcome.

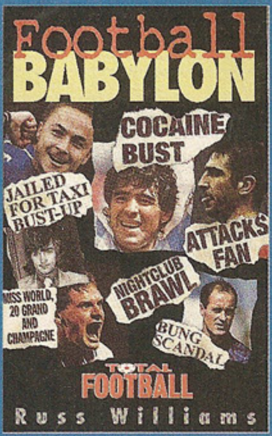
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TOTAL FOOTBALL

IN-DEPTH REVIEWS OF HARDWARE AND SOFTWARE THAT YOU CAN TRUST



Ben Vost

The long term test idea seems to really be picking up. We've already had in quite a number of texts extolling the virtues of, or decrying the shortcomings of, various bits of hardware, software and peripherals. Do keep writing in and don't worry too much about the length of your piece as long as it is less than 750 words. This month we have just used one review from Jonathan Duke in St. Albans. But there's one thing you should do that Jonathan didn't: send in a picture of yourself and your bit of kit, if at all possible. Rather than just sending in the one picture, take a few photos in slightly different poses or from different angles and let our arties sort out what looks best on the page. Nice.

AMIGA FORMAT'S REVIEW POLICY

is very simple. *Amiga Format* is staffed by some of the most experienced Amiga users in the world and what we say goes. OK?

WHAT OUR REVIEW SCORES MEAN

90+% The crème de la crème. Only the very best, most versatile and effective products are awarded an *AF* Gold – the most highly prized rating there is.

80-89% These products are very good, but there are minor flaws or areas that could be improved upon.

70-79% Good products which may be worth buying, if you have a special interest in that area of computing.

60-69% Average products with somewhat limited features and appeal. Products in this category tend to be flawed.

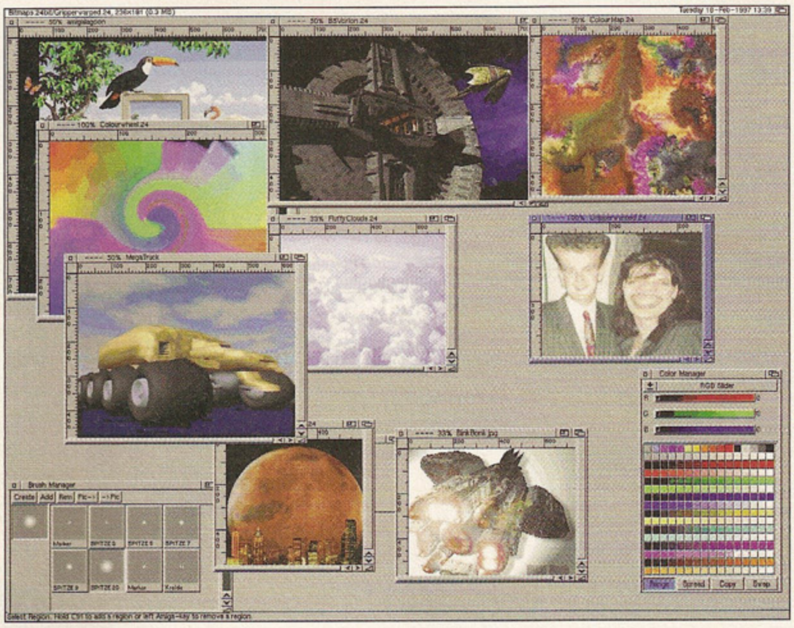
50-59% Below average products which are unlikely to impress your mates or your wallet. Avoid.

40-49% Overwhelmingly poor quality products with major flaws.

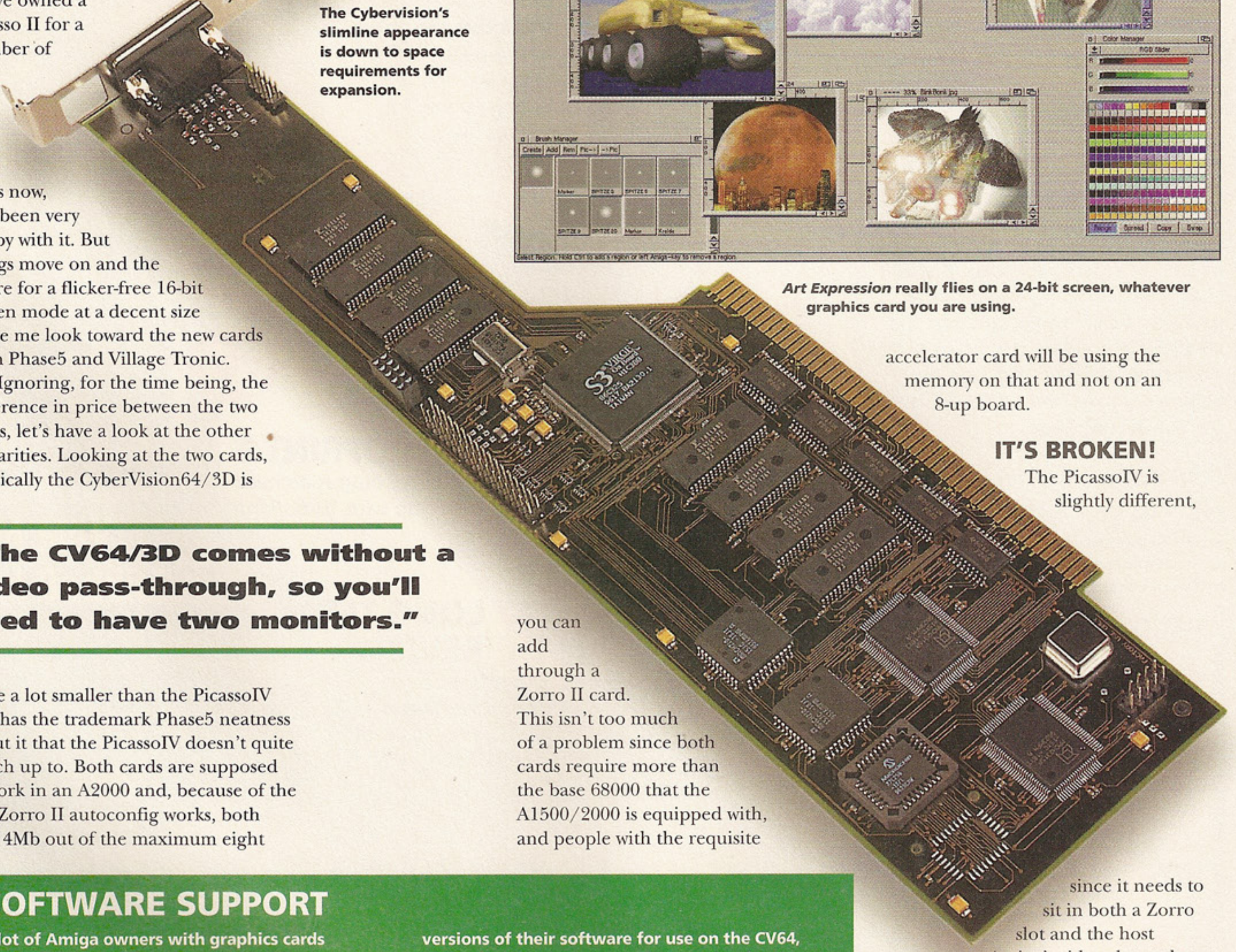
Less than 40% The absolute pits.

CV64/3D v

Want a graphics card? Ben Vost gives you the lowdown on the current market leaders.



Art Expression really flies on a 24-bit screen, whatever graphics card you are using.



The Cybervision's slimline appearance is down to space requirements for expansion.

Very rarely do you get the opportunity to try out three graphics cards in one machine. I have owned a Picasso II for a number of years now, and been very happy with it. But things move on and the desire for a flicker-free 16-bit screen mode at a decent size made me look toward the new cards from Phase5 and Village Tronic.

Ignoring, for the time being, the difference in price between the two cards, let's have a look at the other disparities. Looking at the two cards, physically the CyberVision64/3D is quite a lot smaller than the PicassoIV and has the trademark Phase5 neatness about it that the PicassoIV doesn't quite match up to. Both cards are supposed to work in an A2000 and, because of the way Zorro II autoconfig works, both take 4Mb out of the maximum eight you can add through a Zorro II card. This isn't too much of a problem since both cards require more than the base 68000 that the A1500/2000 is equipped with, and people with the requisite accelerator card will be using the memory on that and not on an 8-up board.

> **"The CV64/3D comes without a video pass-through, so you'll need to have two monitors."**

IT'S BROKEN!

The PicassoIV is slightly different, since it needs to sit in both a Zorro slot and the host Amiga's video slot at the same time. Not a problem on an A3000/4000, since the Zorro and video slots are in line with each other, but the A2000's video slot is right over on the right-hand side of the machine, about a foot away from the nearest Zorro II slot. However, all is not lost. In a move that is both innovative and scary, Village Tronic have given the A2000 owner the opportunity to still use the card if he or she is brave enough to break it.

SOFTWARE SUPPORT

A lot of Amiga owners with graphics cards currently use Cybergraphics (CGX) software to drive their board. Unfortunately, with the team behind CGX stating that they were unwilling to create a CGX driver for the PicassoIV, it meant that the Village Tronic software engineers were forced to come up with the goods themselves.

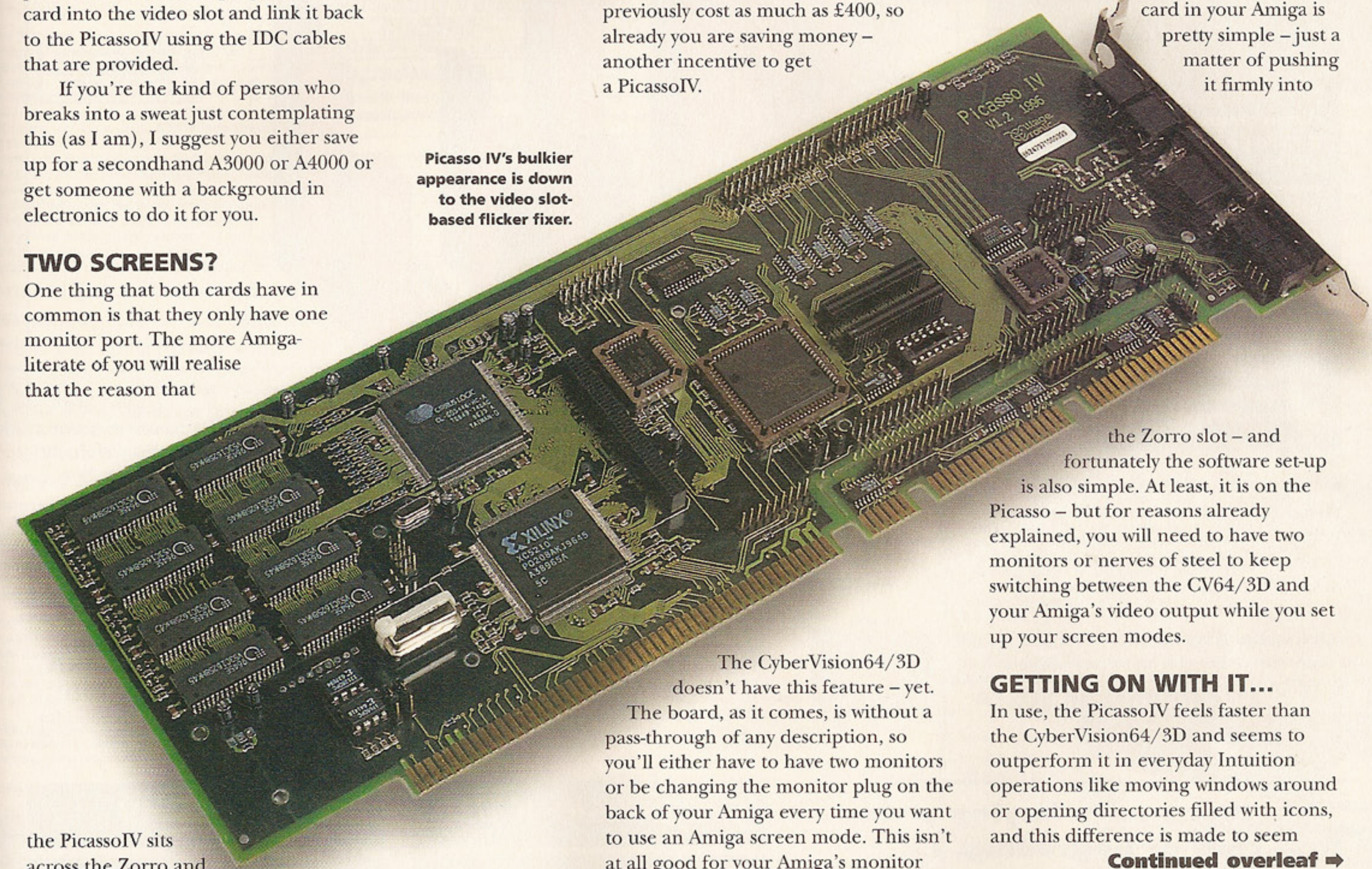
In fact, they went one better in making Picasso96 (P96) compatible with programs which require CGX to work, making the transition from CGX to P96 more comfortable since no work needs to be done to change file types in *DOpus* or something of the sort. Village Tronic even provide versions of their software for use on the CV64, although there isn't currently a version for the CyberVision64/3D board.

The CyberVision64/3D card comes with the latest revision of CGX and also some rather uninspiring demos of the CyberVision64/3D's 3D acceleration. These demos consist of a black screen with a 3D shape on it – either a ring or a kind of lozenge shape. The only really nifty tool that comes with CyberVision64/3D is the rather groovy little MPEG player called *Osiris*. It opens a window on your screen with playback controls and is very rapid (at least on my 060 machine).

PicassoIV

That's right – you have to physically snap the PicassoIV board across a set of perforations that separates the video slot portion of the card from the Zorro portion. You can then plug the video card into the video slot and link it back to the PicassoIV using the IDC cables that are provided.

If you're the kind of person who breaks into a sweat just contemplating this (as I am), I suggest you either save up for a secondhand A3000 or A4000 or get someone with a background in electronics to do it for you.



Picasso IV's bulkier appearance is down to the video slot-based flicker fixer.

TWO SCREENS?

One thing that both cards have in common is that they only have one monitor port. The more Amiga-literate of you will realise that the reason that the PicassoIV sits across the Zorro and video slots is so that it can pass through the Amiga's video signal (for when you are using *Lightwave*, *DPaint*, or other recalcitrant software that dislikes being promoted). It actually does this beautifully; better even than the motherboard flicker fixer on my A3000T. Of course, A4000s don't actually come with a hardware flicker

"You can use the PicassoIV in an A2000 if you are brave enough to snap it in two."

fixer, so the addition of one to the PicassoIV comes as an even more welcome surprise. It also means that you can ditch those slow-moving, memory-hogging, processor-chewing, DMA-stopping DblPAL and DblNTSC screen modes and also get a proper monitor (on which you'll be able to see everything from the latest megademos to games and all your serious work). A hardware flicker fixer for an A4000 previously cost as much as £400, so already you are saving money – another incentive to get a PicassoIV.

The CyberVision64/3D doesn't have this feature – yet. The board, as it comes, is without a pass-through of any description, so you'll either have to have two monitors or be changing the monitor plug on the back of your Amiga every time you want to use an Amiga screen mode. This isn't at all good for your Amiga's monitor port and probably doesn't do the CyberVision64/3D any good either. It will also interrupt your work if you have to switch the machine off every time.

Installing either card in your Amiga is pretty simple – just a matter of pushing it firmly into the Zorro slot – and fortunately the software set-up is also simple. At least, it is on the Picasso – but for reasons already explained, you will need to have two monitors or nerves of steel to keep switching between the CV64/3D and your Amiga's video output while you set up your screen modes.

GETTING ON WITH IT...

In use, the PicassoIV feels faster than the CyberVision64/3D and seems to outperform it in everyday Intuition operations like moving windows around or opening directories filled with icons, and this difference is made to seem

Continued overleaf ➡



Directory Opus running on a 16-bit, 1152x900 screen is a wonder to behold – and ideal for viewing images.

ADD-ONS GALORE

Both Village Tronic and Phase5 are promising peripherals. Although we have no firm pricing at the moment, here's a list of what should be available soon...

PICASSOIV

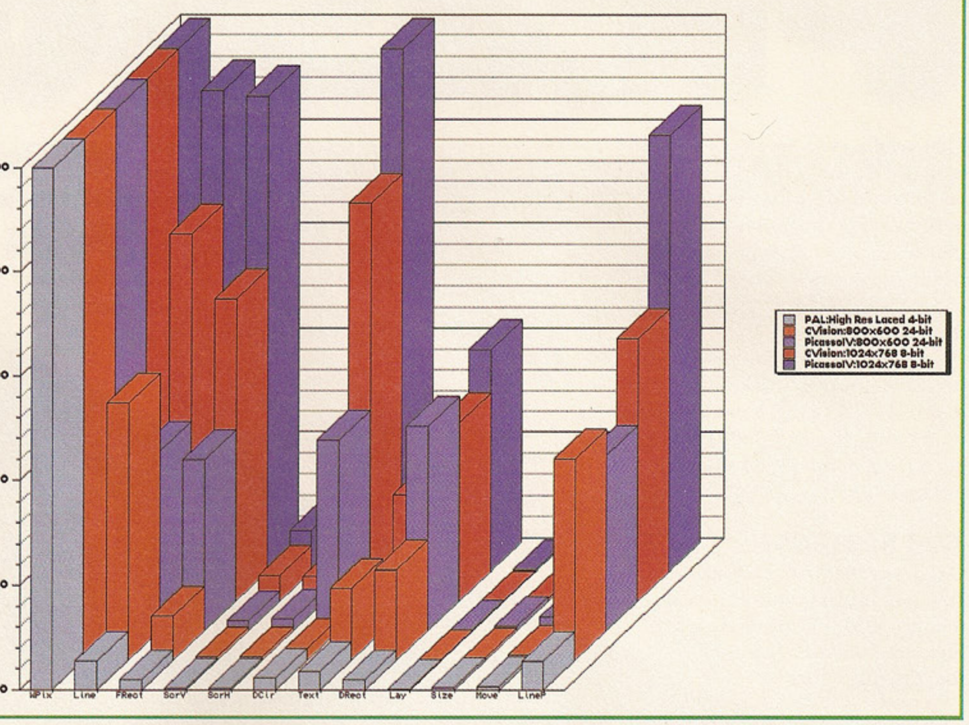
- MPEG Decoder – for MPEG files, Video CDs and CD-I.
- Sound module – 16-bit CD-quality output/sampling. 4-channel audio mixer, FM synthesizer and MIDI wavetable synthesis.
- Video module – Cable-ready three input module which (presumably) will enable playback of video or TV signals on screen & decode Teletext.
- Pablo II – Video encoder which will also be able to display to your VGA monitor thus negating the need for a separate video resolution monitor.

Further away: MPEG-1 Encoder; 3D Graphics accelerator; PowerPC module; External MIDI module;

CYBERVISION64/3D

- Flicker fixer – (vital for the pass-through of normal Amiga modes);
- CyberVision64/3D MPEG Decoder – (as for PicassoIV).

Graphics card comparison



Though it's maybe a little bit confusing, this graph shows the comparison between standard Amiga graphics, PicassoIV and the original Cybervision 64 card. The benchmark tool is on this month's CD in the In_the_mag/GFXCard directory.

larger by the poor quality monitor drivers of the CyberVision64/3D. Where the PicassoIV can run an 1152x900 display in 16-bit with no trouble, the same display on the CyberVision64/3D seems to be interlaced and very slow. Both cards come with drivers for monitors with a horizontal frequency of up to 64kHz, but the CyberVision64/3D comes with an extra driver for 80kHz monitors.

> **"Whether you're buying your first card or upgrading, I'd recommend the Picasso IV."**

Neither came with one suitable for my 86kHz monitor (an Idek) so I decided to use both at 64kHz to keep things fair.

I am sure the CyberVision64/3D will eventually live up to the standard set by the PicassoIV once the flicker fixer becomes available, but why wait? The PicassoIV is a very nice board in terms of both performance and price.

ONLY ONE CHOICE

Whether you're shopping around to buy your first graphics card or you want to upgrade to a new one, the PicassoIV will only cost about £100 more than the CyberVision64/3D, and I would recommend it every time. If you can't afford it and you still want a graphics card, maybe you would be better off looking at a PicassoII+, which costs the same as the CV64/3D. It's a lot slower and can only take 2Mb of video RAM, but it's very stable and has the all-important pass-through. If you've had a Retina of any description and you are used to not having a pass-through, then by all means get a CyberVision64/3D. It'll be a lot faster than your current card and I'm sure that programmers will soon start to take advantage of its 3D acceleration. But otherwise, once again, I'm afraid I would have to recommend the PicassoIV over it.

As for comparing the PicassoIV to the older model CyberVision64, it's a close contest. They are comparably priced and the CyberVision64 offers nearly the same speed as the PicassoIV, but it is an older board and requires external pass-through – not so good for those who rely on DblPAL.

CYBERVISION64/3D

Distributor: Harwoods 01773 836781
PRICE: £219.99 for a 4Mb board
REQUIREMENTS: WB3.0, min. 68020, 4Mb RAM, decent monitor

SPEED: ●●●●○
Fast, but not as fast as the PicassoIV.
MANUAL: ●●●●○
Good, clear manual.
ACCESSIBILITY: ●●●○○
Not much fun to configure, unless you have two monitors.
FEATURES: ●●●○○
No pass-through or 3D acceleration.
VALUE: ●●●●●
Only £20 more than a PicassoII.
OVERALL VERDICT:
You might be better off with the CyberVision64.

78%

PICASSOIV

Distributor: Blittersoft 01908 261466
PRICE: £299.99 for a 4Mb board
REQUIREMENTS: WB3.1, min. 68020, 4Mb RAM, decent monitor

SPEED: ●●●●○
Silky smooth at all resolutions.
MANUAL: ●●○○○
Very skimpy in English.
ACCESSIBILITY: ●●●●●
Plug and play, unless you have an A2000.
FEATURES: ●●●●●
Flicker fixer, audio pass-through and more to come.
VALUE: ●●●●○
You get what you pay for.
OVERALL VERDICT:
So far, the best graphics card available for the Amiga.

88%

Eyetech's Spring Specials: *MV 17"Multisync monitor £399.95; Accelerators: '030/25MHz/FPU £79.95, '040/33MHz (cool) £239.95; '060/50MHz £439.95; 28.8 Data/fax modems £79.95; SX32Pro-50 £349.95; SX32MK2 £189.95; 200W PSU's & leads £59.95; 100MB bootable IDE Zip drives £119.95; Quickcam interface & s/w £39.95; 3 months internet + 14.4 modem + s/w £79.95; CDPlus system from £139.95*

The Top-Rated Eyetech *CDPlus* for the A1200 *2-speed and 8-speed* CDROM drives



The CDPlus and SyQuest EZ135 drives. The IDE Zip Drive is the same size as the EZ135

What do the reviewers say?

Amiga User International - 97%
"... It all worked faultlessly ... "
Amiga Format - 96%
"... An absolutely superb bit of kit.."
Amiga Shopper - 90%
"... This is a quality product..."

Amazing Value - Prices Down
8-speed - *only £189.95*
Special Purchase - Limited Availability:
Upgradeable 2-speed - *just £139.95*

The *CDPlus* is also available as a full kit but without CD mechanism - so you can fit your own - for £119.95

- 2- or 8- speed external CDROM unit in quality CE-approved case with heavy duty PSU
- Leaves trapdoor free for accelerators / memory expansion and the PCMCIA slot free for digitisers, modems, samplers etc
- Option to add additional HD's, CDRoms, SyQuests, *IDE Zips*, Jazs, ATAPI tape streamers etc powered from the CDPlus unit
- Comes with special Eyetech *'060-compatible* Mk2 4-device EIDE buffered interface board - easily fitted in minutes with no cutting/drilling (Note that IDE CDROMS *must never* be directly connected to the A1200 without a buffered interface)
- Gold plated audio phono sockets* at rear and front panel headphone socket and volume control
- Complete with 'Click-and-Go' installation software



The CDPlus MiniTower & Desktop cases (styles may vary)

Considering a PowerStation?* The CDPlus is now available with an alternative, 230W, CE-approved, PC MiniTower or Desktop case (which can also power your A1200) - *for only £25 extra (*Not on DT/MT)

SX32Mk2 & SX32Pro *Internal* Expansion for the CD32

The SX32 Pro is now shipping! Make your CD32 into a high powered, portable Amiga!

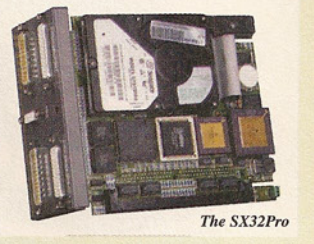
What do the reviewers say?

Amiga User Int'l	*"95% - Definitely Recommended"*
Amiga Computing	*"90% - A Dream to Use." Blue Chip Award*
Amiga Format	*"93% - A Job Well Done" Gold Award*

The SX32Pro and SX32Mk2 add ...

- √ 33 or 50MHz '030 MMU CPU and FPU socket (33Mhz FPU socket only on the SX32Mk2)
- √ Simm socket for up to 64MB of 32 bit fast (60/70ns) RAM (up to 8MB fast (70ns) RAM on the SX32Mk2)
- √ Buffered IDE interface for internal 2.5" hard drive ***and*** second hard drive, SyQuest, Jaz *or even 8 speed CDROM* (optional extra on the SX32 Mk2)
- √ Sockets for RGB video (23 pin), VGA video (15 pin), Parallel port (25 pin), Serial port (25 pin), Floppy disk port (23 pin)
- √ Jumper-selectable for PC or Amiga keyboard input (external adapter on SX32Mk2)

... to the CD32's existing mouse, joystick, keyboard, audio, RF, composite video and SVHS ports.



The SX32Pro

SX32Mk2 - *sale price -* £189.95
SX32Pro-50 - *sale price -* £349.95
Genuine Amiga 89-key compact keyboard *£34.95*
SX32 floppy, hard drives 20MB-1.1GB, RAM - *Please ring*

All models include full pictorial fitting instructions,WB3.0 & utilities on CD and 'Click-and-Go' hard drive installation diskette

Just a few SX32 Combo packs left - SX32 Mk2 or Pro-50, CD32, keyboard, 4MB memory, hard drive and enhanced power supply - at unbeatable prices!

AMIGA HEALTH WARNING

If you have recently fitted - or intend to fit - an IDE/ATAPI CDROM to your A1200 *(other than an Eyetech CDPlus unit)* **without** a buffered interface then your Amiga is in risk of serious damage arising in the future. The A1200 - unlike A4000's and PC's - has *NO* internal IDE buffering. On the A1200 the IDE interface connects ***directly*** to the A1200 processor chip which itself has insufficient output to drive more than one IDE/ATAPI device (and only then on a short data cable) for any sustained time period. To the best of our knowledge the ***Eyetech CDPlus*** is the only A1200 ATAPI CDROM supplied with a buffered interface as standard. We are now making this 4-device buffered interface available separately for use with other kits and D-I-Y CDROM installations. At only £39.95 it is a small price to pay to preserve your Amiga's health.

Mk2 interface now available - Compatible with all popular hard drives and accelerators - including '060 models

LOOK! 17"Microvitec Multiscan Monitor 15-64KHz, 50-120Hz All Amiga/PC scan modes to 1280x1024, Autoswitching **£399.95!!!**

Superb *Amiga* Internet packages *from Eyetech*

The following GetConnected packages are now available from Eyetech:

Expert pack. Three months unlimited Internet, access with ***1 MB*** of your own World Wide Web space, 60-minute continuous-use-restricted ***Web, FTP, IRC, news and email*** software, Internet reference book and ***24hr technical support*** from NETCOM. Designed for existing comms users - ***Just £39.95***

A1200 Starter pack. As Expert pack - plus V32 (14.4) modem (upgrade to V34(28.8Kbps) fax/data modem - £40.00), all cables, full installation instructions and software on diskette
This package is tailor made A1200 users who want to get on line at minimal cost - ***Just £79.95***

High speed pack. As Expert pack - plusV34 + (33.6) fax/data modem, all cables and full installation instructions - ***Just £119.95***

Other options available - Please ring for details

Complete Software
- ✓ Customised Am,iga software
- ✓ 'Click and go' installation
- ✓ All-inclusive *'GetConnected'* hardware/software/Internet bundles *only* from Eyetech

Complete Access
- ✓ Local telephone dial-up
- ✓ Nationwide coverage
- ✓ Quality network connectivity

Complete Support
- ✓ 24 hours a day
- ✓ 7 days a week
- ✓ Total subscriber service

Complete Value
- ✓ No start-up fee
- ✓ Unlimited usage
- ✓ Fixed monthly charge

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BT ISDN LINE NOW ONLY £199!!!

The Eyetech ZorroII ISDN Adapter gives you high speed Web-browsing and video conferencing on your Amiga for *only £189.95*

Amiga Driver Software for Epson Colour Printers and Scanners

EnPrint for the Stylus ColourII/IIs/Pro/ProXL/200/500/800/820/1500
- √ Unbelievable photographic quality output
- √ 'Preferences' & stand-alone printing program

ScanQuix for all Epson scanners
- √ 24 bit scanning with full range of editing options
- √ 'Scan-to-disk' option in Jpeg or IFF formats
- √ Stand-alone use or integrates with your Art package
- √ Also available for HP, Mustek and Artec scanners



Scanned printed output

EnPrint v2.1.3 printer driver - only £29.95
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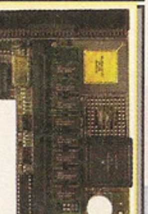


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Cinema4D 3

And Ben Vost said "Let there be visible light" and there was, and more. *Cinema4D* is a 3D package that's really going places.

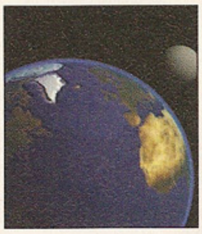
See special upgrade offer on page 96!



Showing off *Cinema's* sunlight lighting option, this composition with a rendered building really looks great.

The full version of *Cinema4D 2* was given away on our Christmas Coverdisk (*AF92*) and if you were lucky enough to get a copy, you'll know just how good it is. The latest version is even better. Not only does it clear up almost all the problems that existed with version 2, it also finds the time to innovate, making simple, tasks that are the subject of FAQs for other 3D packages.

Take visible light for instance. If you want to create a pair of headlights, or a torch beam in *Lightwave*, you'll have to make cone-shaped objects with transparency settings, fractal noise textures and other such gubbins – not an easy task as I know from experience. However, in the new version of *Cinema4D*, all you need do is click on the "Visible Light" cycle gadget in the Lights panel and select the type you want. The program also gives you proper lens effects to rival *Lightwave*'s. In a panel off the light editing requestor you will find all the parameters for reflections, flares and glows. You even get to see them in action before you render your scene, thanks to the rather splendid preview box.



Who says you have to use *Lightwave* for space scenes?

"Cinema4D is so easy to use, even complete novices will be able to set up their first animation within half an hour."

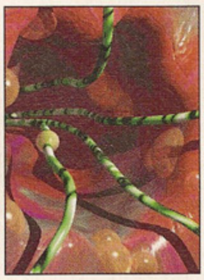
KEEP ON MOVING

One of the things I disliked about the previous version was that there seemed no easy way of moving an object numerically – a problem which I am happy to say has now been overcome by the expedient and consistent method of right mouse clicking on the type of transformation (move, rotate, size) you wish to perform. This brings up a numeric requestor for you to enter details into, but as with all *C4D* requestors, you need to delete the details that are already in the box before you can add new ones. I'd really like to see a feature introduced in *C4D* that is very useful in *Lightwave* – the ability to type in the space at the start of a text box and have that replace the text that is currently already there. This would speed things up no end.

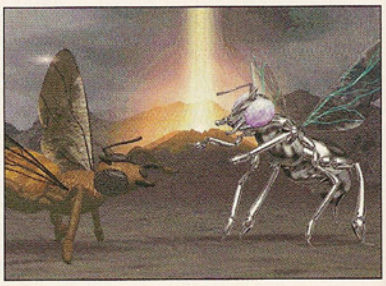
Rendering is now much faster than it was with version 2 and the new render control panel is very thorough. In addition to the familiar settings for what screen mode you wish to render to, you can now specify a picture command. This enables you to send a picture from *Cinema*'s render engine directly into a paint package without needing to save it in *C4D* first, load up your paint package and then load up the picture again.

You now also have far more control over very technical aspects of 3D rendering, usually skimmed over by other packages.Things like Octree levels and voxel space, you can even specify how anti-aliasing is performed. Because the renderer is actually a separate program, it runs asynchronously so that you can carry on in the editor while rendering your pictures. Fortunately, you can set the priority of the render

AMIGA GOLD FORMAT



Cinema4D* proves that solid modelling is ideal for organic forms.

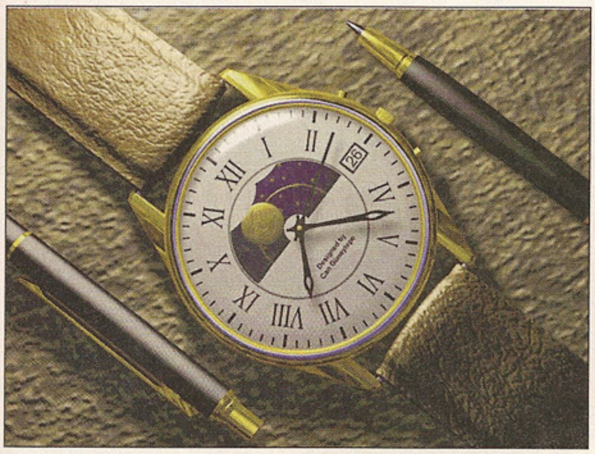


Even without algorithmic textures, *Cinema's* renders manage to look lifelike.

FIRST LOOK

***Cinema4D 3* is the second UK release of a German 3D modelling and animation package. It has a modern-looking interface which conforms to the Amiga Style Guide and is very happy using modern features like '060 processors, RTG graphics cards and third party plug-in interface.**

Compared to products like *Lightwave* (reviewed last issue) (£1174) and *Imagine* ($1195), *Cinema4D* is an inexpensive introduction to 3D computer graphics.



This *Cinema4D* image shows the power of bump mapping.

PLUG IN AND PLAY

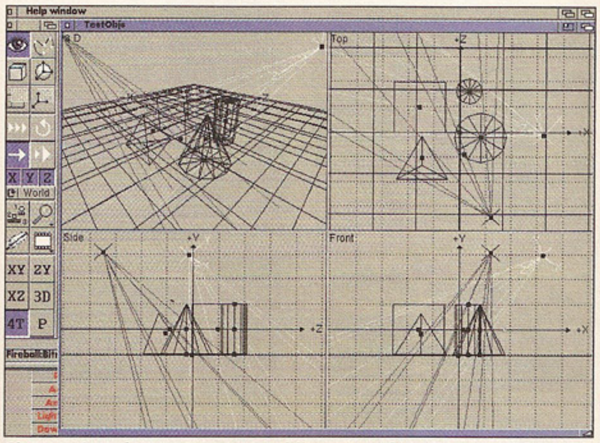
Lightwave is not the only Amiga rendering package that has developer documentation for creating plug-in modules to supplement the range of tools available to the user. *Cinema4D* also has a similar interface which is accessed through the circle of arrows button in the Object toolbar. If you buy *Cinema4D 3 Deluxe*, you'll get two plug-ins included in the deal. Cinema World is a fractal landscape generator which can unfortunately only load *Vista Pro* v1 uncompressed format DEM files which rather limits its usefulness. But it can create its own random landscapes using the time-honoured "think of a number, any number" method.

Rather more impressive is the Cinema Font plug-in. This beauty allows you to type text in a Postscript font into its interface which it will then export to *C4D*, extruding and bevelling it on the way, if that's what you desire. It comes on two disks because it also has a large selection of fonts to install if you aren't already using postscript fonts elsewhere on your system. It's a little buggy, re-sizing the window seemed, on occasion, to cause the whole thing to crash, but this doesn't stop it from being invaluable to Cinema owners who've had to put up with Helvetica and Diamond all this time, just make sure you save at regular intervals.

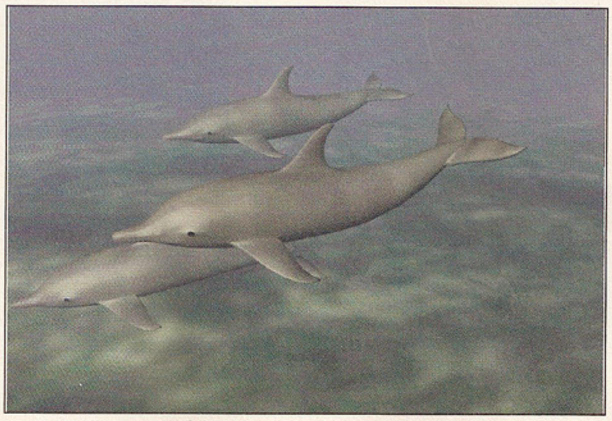
engine so that it doesn't slow down the editing screen while you work on your scene (although you'll lose any speed advantage the updated render engine confers). The render engine now offers you accompanying picture depth and object maps which determine how "deep" inside the picture any particular pixel is and shows the spatial relationships between the objects in the scene respectively. Again, these are functions that only the most hardcore of image processors will understand, but it's still great that they have been implemented.

FASTER RENDERS

Scanline rendering has been improved so that it can now show transparency and refraction where previously you had to use "RayTrace" to see these object attributes. This means faster rendering times and softer shadows all round, hurrah!



Cinema's interface runs on any public screen – here it shares *DOpus*'.



The underwater reflections in this scene would have been easier with a nice fractal noise shader.

There are still some bad points about *Cinema 4D*. The way you map a texture onto a shape is very nice, with a graphical representation of the texture you can manipulate over the surface but textures still only consist of bitmap images and the usual luminosity, reflection, etc. settings. There are no algorithmic textures such as fractal noise, wood or plasma which are so handy in other 3D packages.

There are also no texture swatches to give you an idea of how things will look before you render the scene. Modelling in *Cinema 4D* isn't particularly easy either because of its solid modelling background. This accounts for two things – the lite version of *Magic Link*, an excellent (and necessary) object converter, and the dearth of *Cinema 4D* models available on the Internet compared to the thousands of *Imagine* and *Lightwave* objects out there.

The package's German origins are also quite often apparent with odd words like Fresnel, Akima and polygon (referring to a spline object) turning up on a regular basis.

But let's not dwell on these fairly minor problems. *C4D* is so easy to use, even complete novices will be able to set up their first animation within half an hour. It won't be pretty, but if you compare that to *Imagine*, where you'll probably spend six months just getting your first quickrender, it becomes more impressive.

Cinema4D 3 really is a superb package. It is relatively cheap, very fast at rendering and raytracing and has an expandable interface to allow for the inclusion of third party programs. It may have been a bit overlooked in this country, especially compared to its native Germany, but I'm sure all that is set to change once enough people get the latest version. Best of all, there is substantial ongoing development which means *Cinema4D* can only get better.

Distributor: HiSoft Ltd. 01525 718181
PRICE: C4D3 Deluxe CD £199.99, C4D3 Deluxe disk £229.99, C4D3 disk £199.99
REQUIREMENTS: Hard drive

SPEED: ●●●●○
Rendering very fast but user interface needs work in terms of speed of use.
MANUAL: ●●●●○
Just an addendum but very thorough.
ACCESSIBILITY: ●●●●●
Always easy to use and v3 doesn't make it any more difficult.
FEATURES: ●●●●●
Visible light alone is worth the price.
VALUE: ●●●●●
Definitely the best value 3D software.

OVERALL VERDICT:
A cracking package for beginners and experienced 3D'ers alike.

90%

GOOD OR BAD?

- ✗ If there is a problem when loading the program, error messages are in german
- ✗ Still no algorithmic textures or texture swatches
- ✗ Method of entering numbers into boxes should be revamped a la Lightwave
- ✗ No display for light falloff or fog
- ✗ When animating an object's size, changes only show up in the animation and not in the editor
- ✗ No angle limitation on Inverse Kinematics objects
- ✓ Excellent rendering speed
- ✓ Standalone raytracer cuts down on memory requirements
- ✓ Plug-in font converter
- ✓ Nice new light effects, like visible and parallel lighting
- ✓ Axis limitation on Inverse Kinematics objects

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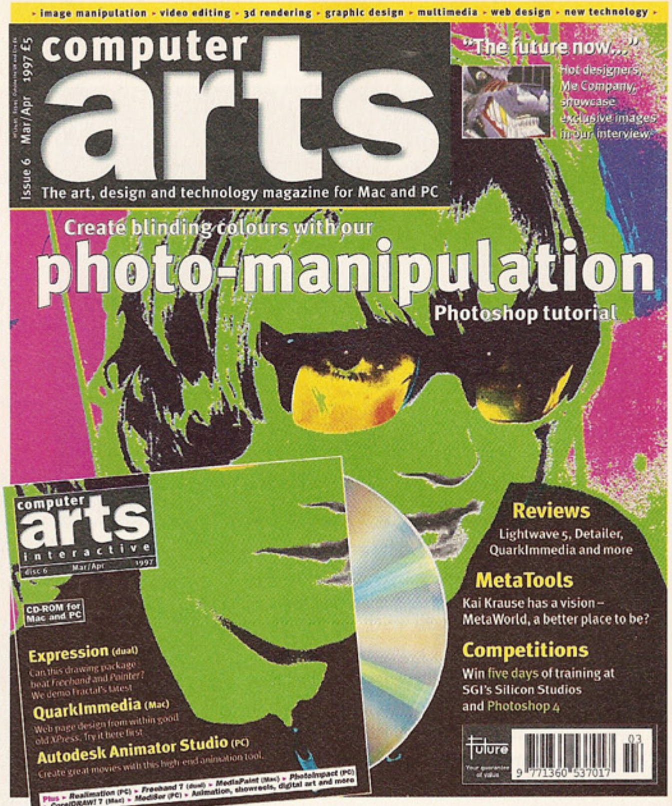




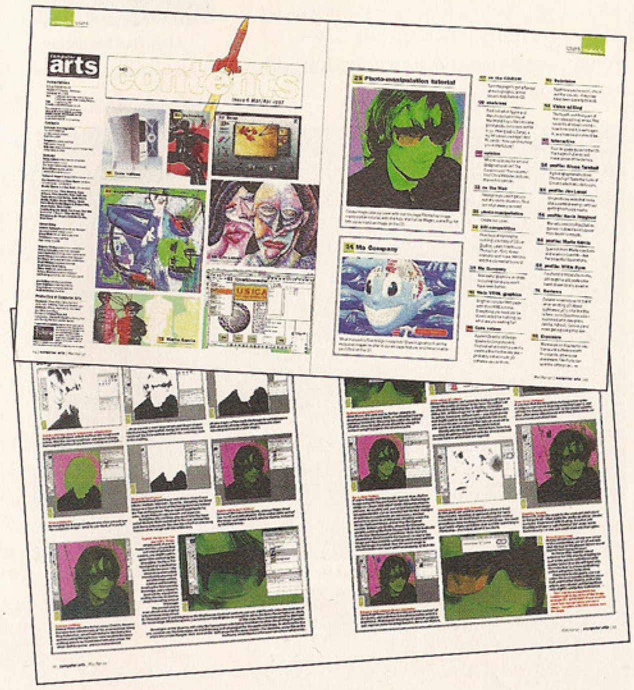


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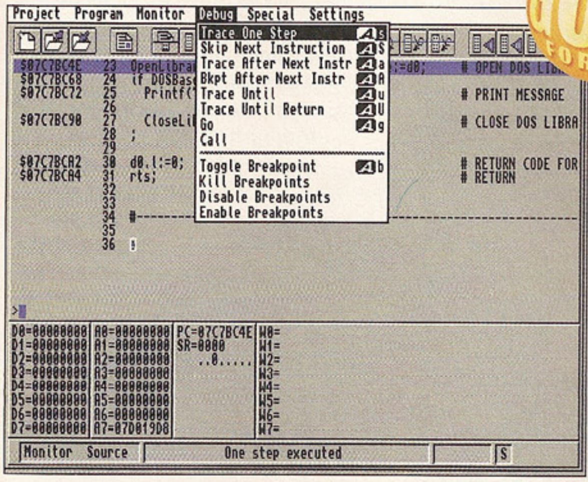


Issue 6
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Secal Version 1.0

Paul Overaa takes a look at this new language and explains what's on offer...

Secal, if you've not come across it before, is a compiled programming language designed to provide a middle-of-the-road path. Its syntax arrangements, i.e. the rules that govern how Secal programs should be written, are a bit of a mixed bag



The monitor display is the first thing you see when Secal loads.

including elements of C, Pascal and even 680x0 assembly language. That said, it's quite easy to learn and aims to give programmers a base set of high-level statements, whilst still providing the flexibility to work at a lower level with maximum speed or efficiency.

The package comes on two disks and includes a 120-page manual. It can be used on any 1Mb+ Amiga running WB2.04 or greater. Secal has a user-friendly front end, the Integrated Development Environment (IDE), which provides menu access to the editor, compiler and so on. You can write, edit, compile and debug programs without ever leaving the IDE. One particularly important inclusion from a practical viewpoint is that Secal versions of the Amiga's header files have been provided. This gives Secal programmers access to exactly the same sorts of standardised system structure definitions and constants that C and assembler coders get.

Amongst the linker libraries is an extension library which offers some powerful high-level audio and graphic functions.

You also get a number of extra utilities.

That's the environment but how about the language itself? It's pretty easy to get started with because the language is small and the rules straightforward. All Secal statements are terminated with semicolons like this...

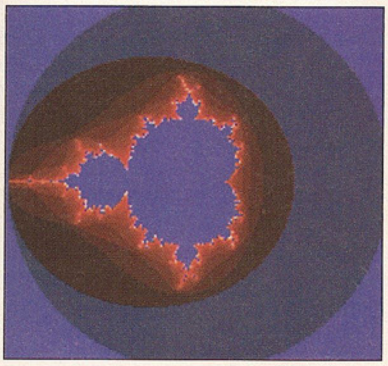
```
m:=m+n;
```

Two types of comments are available. Single line comments can be started with the # or // characters but C style forms like this can also be used...

```
x:=x+1;  /* an example comment */
```

Secal does of course provide all the usual loop and conditional testing statements. While-do loops for example are written as..

```
while x<y do
      x:=x+1;
;
```



To be impressed, you really need to see these Secal demos on screen!

The basic variable types are those supported by the 680x0 processor. To declare an unsigned long word variable called result you'd write...

```
var result:ulong;
```

Secal also allows derived types, including arrays and structures, to be used and the methods for inclusion of 680x0 assembler instructions are particularly interesting. Variables can be used in both high-level Secal instructions and embedded assembler-level code with the 680x0 register set even being usable at high level. This means, for instance that you can write expressions like...

```
move 1,y;
```

or even...

```
x:=d2-1;
```

and the compiler will remain happy!

BUT WILL IT TAKE OFF?

The language has come a long way since the initial prototypes and the new IDE front end certainly makes program development and testing easier. There are still a number of non-standard facilities provided but these things are easy to get used to.

There's no doubt that Secal programs run fast – the simplicity of the language and closeness to the underlying processor sees to that. But this strong 680x0 connection also has a down side. Despite the fact that you could (in theory) learn to program in Secal without knowing anything about the 680x0, the language is clearly best suited to coders who have experience in assembler coding. Familiarity with the Amiga's O/S would of course also be an advantage, both in order to program effectively in Secal and appreciate the environment.

Whether Secal will prove a success or not is hard to tell. However, the price is reasonable, considering the amount of work that has gone into development and it is undoubtedly an interesting, and potentially useful language that has a lot to offer the serious coder.

SECAL – WHAT'S IT GOT?

- An editor, debugger, monitor, compiler, an integrated front end for ease-of-use, full header file support, and plenty of example programs!
- 120 page manual
- Can be used on any Amiga running WB2.04 or upwards
- Language has an interesting mix of both high-level and low-level facilities

Distributor: OTM Publications & Promotions Ltd 01827 312302
PRICE: £34.95
REQUIREMENTS: WB2.04, 1Mb RAM

OVERALL VERDICT:
Unlikely to become a main contender but still an interesting language.

90%

Modem Pack

Darren Irvine looks at a complete solution, designed to get you and your Amiga online.

The overall incursion of comms technology into "everyday" computing has meant a boom in the number of low-cost, high-speed modems. Sadly, almost all of them are targeted at the PC marketplace.

For a while now, one exception to this insidious trend has been OnLine PD. They'll supply you with a modem (either the now standard 28K8 flavour, or the slightly spicier 33K6 variety), and the software to get you started – almost every piece of Amiga comms software you could need.

The modems themselves seem robust and reliable in operation but modem technology is pretty mature now so any one you buy will work pretty much as well as any other. What it comes down to now is price, build-quality, and software support.

TRANSFER SPEEDS

In my tests, transfer speeds from both BBSs and the Internet were every bit as good as the protocols would suggest, and the modems also correctly identified unusual line-conditions such as engaged tones – something that can be a real pain if your modem doesn't support it. The modems come with a serial port lead (the standard 25-pin sort, though if you have a Surf Squirrel, they'll supply you with a 9-pin one at no extra charge). You also get a phone lead splitter, so you can plug your phone and the modem into the same wall socket.

"...exactly what you'll need to make your first steps in the online world."

On the negative side, there's only one thing worth mentioning. For some reason when people are designing modems, they quite sensibly put a row of LED indicators along the front (or sometimes along the top). Then, quite barkingly, they decide to hide these not particularly strong lights behind a smoked plastic panel. This can mean that unless you're looking straight at the display, it can be tricky working out which light is actually on.

Anyway, as I've mentioned, it's the supplied software that really makes this bundle stand out. As their name suggests, OnLine PD know a thing or two when it comes to Public Domain software, and they've gone to town in terms of what they supply. There are 33 disks of software to play with and installing all of this stuff can easily keep you amused for an entire rainy Sunday afternoon.

The choice of software on the disks fairly obviously all pertains to comms in some way or other (except for the inclusion of MUI, the user interface that a number of other programs require). There are systems for connecting to the net such as *AmiTCP* and *Miami*. There are Web browsers (AWeb, IBrowse) and all the usual Internet type stuff, such as mail and news readers, and the excellent IRC client *Grapevine*. There's also a bunch of smaller Internet utilities and a range of terminal emulation and BBS style software. Old favourites like *Ncomm* through to Fidonet software like *Trapdoor*. Note that if you already have a modem, this 33 disk pack of goodies is available from OnLine for £22.50, with a 26-disk "Internet" pack for £18. Additionally, when you buy a modem pack from OnLine, you'll be entitled to a further 10Mb worth of downloads from their own BBS, so you can get hold of any other software that you might need.



All of OnLine's modems come complete with an excellent package of software.

All in all, this is an extremely comprehensive package which, having been tailored specifically for Amiga users, is pretty much exactly what you'll need to make your first steps in the online world. If I have one gripe, it's the lack of decent printed documentation. But since OnLine have supplied a number of disk tutorials, this really shouldn't be too much of a problem.

AMIGA GOLD FORMAT

Distributor: OnLine PD 01704 834335
PRICE: See Boxout
REQUIREMENTS: All Amiga, some software needs extra memory and WB3+

SPEED: ●●●●●
On good lines, both modems performed as well as supposed to.
MANUAL: ●●●○○
Useful guides are supplied on disk.
ACCESSIBILITY: ●●●○○
Better than most modem packages, due to the Amiga bias.
FEATURES: ●●●●○
The choice of software is excellent.
VALUE: ●●●●●
A different box would cost much more.
OVERALL VERDICT:
There couldn't be an easier or more comprehensive way to get online.

92%

PRICES

- 33K6 £169.99 (£129.99 without software)
- 28K8 £139.99 (£99.99 without software)
- 14K4 £119.99 (£79.99 without software)



Spider

Zorro Expansion

Simon Goodwin tests Spider – a new interface that allows you to have up to eight serial ports on your Zorro Amiga.

The new Spider interface provides eight serial ports on a Zorro card with its own processor. It's ideal for bulletin boards and could also be useful for networks. Spider is developed by Zeus Electronic Development GmbH and distributed here by Golden Image.

I tested Spider in my Cyberstorm Amiga 4000/060. It suits ZorroII machines too, but throughput suffers because 16-bit Amigas are slow in responding to polled interrupts. The device driver requires Workbench 2.1 or better.

HARDWARE

Spider is a half-length card, simple but neat, dominated by eight serial interface chips and the RISC co-processor which gathers bytes and buffers them between the Amiga and the serial ports. The unidentified processor runs at a leisurely 11.1MHz but the manual states this could be pushed to 14.7MHz to improve throughput when all eight ports are running flat out.

The ports work at standard speeds from 75 to 57600 baud, including the 31250 baud MIDI rate – ideal for anyone itching to program a 128 channel MIDI orchestra – and can be set independently. Each has eight bytes of buffering for status and data in both directions.

A wide ribbon cable with a heavy interference suppressor carries signals to a 62-pin socket on the back panel, via IDC connectors and a small circuit board screwed to the end plate. Spider does not obscure the PC ISA socket alongside the Zorro one, but you'll struggle to find a PC half-card that fits alongside.

The really spidery bit is outside, in the shape of metre-long cables, joined at one end to a big three-row plug, with

type plugs flailing at the far end – hence the name. The plugs have long retaining knobs at either side, suitable for screwdriver or finger and thumb tightening. Repairs are tricky as the plugs are moulded and cannot be opened, but similar cables are used on some PC multi-port cards, so replacements are available.

SOFTWARE

Spider comes with a disk and a short printed manual. There's no installer and indeed no icons at all. Documentation predominates, in ASCII and Postscript format. The 3,500 word English text is clear, with full connection details and a useful glossary.

Installation is simple – just copy the 'spider.device' file to DEVS:. There's no mountlist and the WB 3.1 port handler is not compatible, so you must edit the name 'spider.device' and a unit number, 0 to 7, into each program that uses it.

PERFORMANCE

The device driver is less than 4K of code, and described as 'beta software'. The author Peter Weiss plans support for esoteric serial.device commands, and is chasing a rare problem with bytes getting 'mangled' on arrival. He's also checking out support for multiple Spiders in one Amiga, frankly admitting that this has hardly been tested yet. Updates will be available from the author's BBS, which has English menus.

I tested Spider with *Term* and an Aceex modem. BBS access and Zmodem transfers worked fine at 57,600 baud, but I got more errors when transferring *Term* (570K) over a null modem link from port 0 to port 1. After corrections, the transfer took two minutes: a bit under 5K per second.

COMPARISONS

Spider trumps the Multiface and IO

spider supports eight ports, and the on-board processor reduces system overheads. The price is comparable to that for four simpler boards, though the ports are less fast, and of course it's a much neater solution.

In Germany Internet access is punitively expensive, so Bulletin Boards continue to thrive. Spider could also establish a hub linking lots of computers. The top speed is slow by Ethernet standards but fast enough for an audio or 3D rendering farm. That would require special software though, and – as with most new hardware – Spider has enough to get you started, but little more.

There's a limited market for Spider – you don't get much change from £300 – but it does have plenty of potential and if you do need to connect up to *lots* of things at once, then it's a prime contender. AF

Distributor: Golden Image
0181 900 9291
PRICE: £299
REQUIREMENTS: Zorro Amiga

SPEED: ●●●○○
Barely sufficient.
MANUAL: ●●●●○
Short but well-written.
HARDWARE: ●●●●●
Complete and well made.
SOFTWARE: ●●●○○
Minimal but it works.
VALUE: ●●●○○
Reasonable for a niche product.

OVERALL VERDICT:
A useful if eclectic extension to the Zorro repertoire.

65%

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TurboPrint 5

David Taylor examines a package that can make the Amiga capable of using almost any printer on the market.

Improvement in its printing abilities is arguably the most important area for further development of the Amiga. The home printing market has exploded over recent years, but the Amiga has been somewhat left behind. Printer hardware makers must take the blame for this because few have ever produced printer drivers for the Amiga.

"We tested the program with a couple of printers and the results were stunning."

The task has been left to third party developers and although it may smart, having to pay up to £50 to be able to use your printer, it's better than being stuck with an old dot matrix. Thankfully we have two real options with *PrintStudio* and *TurboPrint*. Both so popular that many other programs now offer to use their printing abilities.

GRAPHICS PUBLISHER

As with the earlier versions of *TurboPrint*, the package works by installing a set of programs including *TurboPrefs* and the new *Graphics Publisher*. When you print out, a program which has installed to your WBStartup drawer enables *TurboPrint* to intercept the attempt to print through the normal Amiga and re-direct it through *TurboPrint*. Thus all your printing, which would go through Workbench, will be sent through the enhancement program.

The big change in version 5 is the replacement of the *Print Manager* with the *Graphics Publisher*. This is a much more powerful interface which allows you an unlimited number of pictures on the page, each with individual brightness and colour settings. You can re-size pictures, preview them and set all the different improvements of colours. You can also choose paper and landscape or portrait positioning.

A built-in virtual memory system copies files to hard disk. This is useful with large pictures or if you have more than one image on the page.

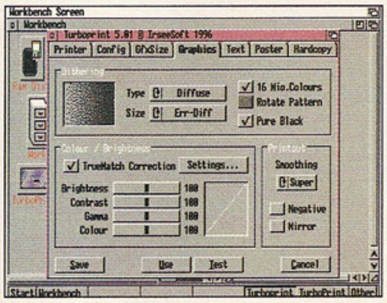
If you are using a third party program that supports *TurboPrint*, like *Art Effect*, then the job is made very easy indeed. You can edit your picture as normal and then select *TurboPrint*. The program will save out the picture in a temporary file and send it to the *Graphics Publisher*, you can then make any adjustments and then print out. It works remarkably well and means that you can work on any image format, even those not directly supported by the *Publisher*, and print straight out.

TRUEMATCH

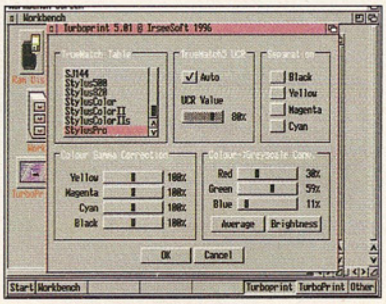
The other major enhancement is TrueMatch colour correction. It employs the UCR (Under Cover Removal) system, where black is placed under colours to make them appear more vivid with sharper edges. Version 4 used 100% UCR, which means that mixed colours appear less vivid, but this new version has an automatic function to mix the amount of UCR so that the very best and clearest picture is produced.

If there is to be any criticism levelled at the program, it is minor. The security process looks very non-standard and the Installer crashed when I failed to specify a printer.

We tested the program with a couple of printers, including the very latest Epson Stylus 600, and the results were stunning. An A4 picture came out clear with no banding. The bad news is that it took 45 minutes – the same picture on the PC took just two! Unfortunately the only way to solve this problem is to buy more RAM and a faster processor.



***TurboPrefs* lets you set the options for your printer so that pictures are correctly filtered.**



The new UCR system ensures correct use of black, giving sharp edges and clear pictures.



You can launch *Graphics Publisher* through other programs like *Art Effect*. This sort of integration is the way forward.

Distributor: Wizard Developments 01322 527800
PRICE: £49.99
REQUIREMENTS: WB2+, fast processor and at least 6Mb of RAM recommended

SPEED: ●●○○○
As fast as it can go, it still means huge waiting times.

MANUAL: ●●●●●
Clear and explains everything.

ACCESSIBILITY: ●●●●○
Everything is easy to use and works well with other programs.

FEATURES: ●●●●●
Just missing a "Full Page" option.

VALUE: ●●●●○
Well worth it.

OVERALL VERDICT:
Helps you get more from any printer – even older monos get better results.

90%

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[INDUSTRY STANDARD FTP CLIENT]

....AmIRC
[INDUSTRY STANDARD IRC CLIENT]

....AmTelnet NEW
[TELNET CLIENT - AMFTP AUTHOR!]

....AmTalk NEW
[INTERNET CHAT CLIENT]

....AmFinger NEW
[FINGER CLIENT]

....AmTerm NEW
[NEW COMMS/BBS CLIENT]

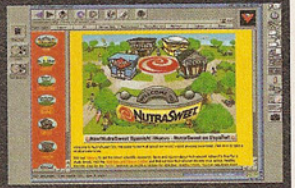
& MUI 3.8 (Shareware)

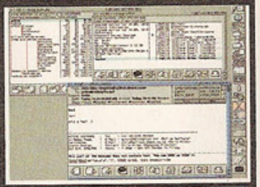
STOP PRESS!!

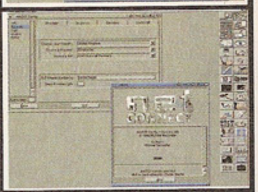
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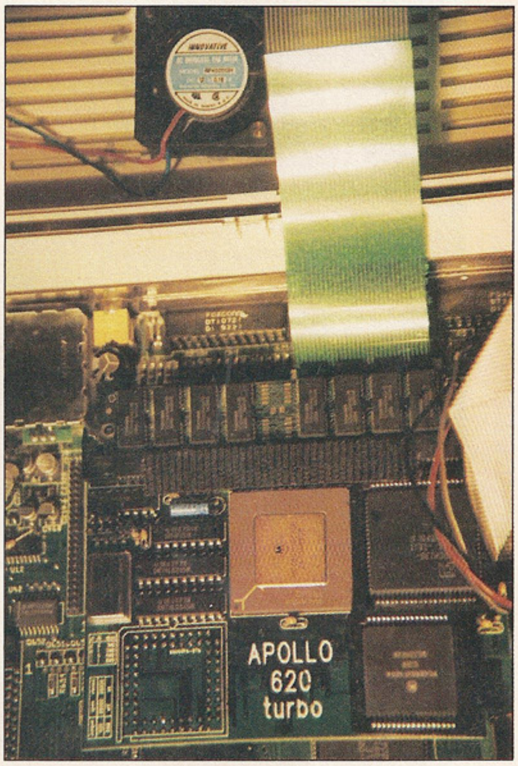
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Apollo A620 Accelerator

A look at the only way to upgrade your A600's speed.





Jonathan Duke at his modified A600 (above). Note the fan (above right) attached to the lid of his machine.

The A600 has been starved of processor power almost since its conception in 1992. For a long time, there was nothing you could do about the measly 7MHz 68000 sitting inside your computer, and the taunts of even those A1200 owners without any sort of acceleration could make you green with envy. Now, however, you can update your computer to 32-bit standard using the recently-developed Apollo A620.

It consists of a 25MHz 68020 and a 25MHz 68882 FPU, which, you would think, would be plenty to quieten those A1200 owners. Fitting is relatively simple although the instructions are not that clear – anyone who can fit a hard drive should not have a problem.

SPEED KILLS!

After it was fitted I booted up and took a look around Workbench. Everything was beautifully fast and *SysInfo* confirmed that the accelerator was working fine. Then, suddenly, the computer crashed. Nothing unusual, I thought, so I just rebooted and carried on again. But lo and behold, 20 minutes later, it crashed again. This pattern continued with the computer crashing every twenty minutes until I just gave up. I tried disconnecting all my peripherals but nothing would stop the crashing. It must, therefore, be my brand spanking new accelerator I thought, but careful inspection revealed nothing.

I was determined to find the fault, and find it I did. After many tests, diagnostic programs and even prodding at the board (probably not a good idea but I was annoyed), I tracked the problem down to the processor overheating. A 68020 overheating? Yes, that's what I thought. I ended up having to go to Maplins to spend an extra £10 on a PC fan that sits inside the case of my computer and cools the processor while the machine is switched on. It makes a right racket, but it is bearable and you soon get used to it.

Now that I have the accelerator working, it's fine. It takes standard 72-pin SIMMs and with 4Mb fitted, mine runs like the wind compared to what it was like before. *Frontier* has a superb frame rate, *Real 3D* renders are done in no time and *Gloom Deluxe*, which is, incidentally, one of the best games I have ever played, is suddenly a reality.

Overall though, I cannot possibly recommend this accelerator to anyone but the most determined of A600 owners – it is just not worth the hassle. To Apollo – a slap on the wrist. What is the point of releasing an upgrade that has to be upgraded before it will work? Tsk, indeed.

Jonathan Duke
St. Albans

BEN SAYS

The Apollo A620 has been discontinued by Power because of the problems users had with fitting it and we can only recommend it to people desperate to accelerate their A600s. A better bet might be to trawl the small ads to try and get a secondhand A1200, it's not just the processor power that is better in these machines, but you also have the enhanced colour palette and graphics speed of AGA.

Hardware seems to be popular with readers sending in their long term tests. *Amiga Format* would like to see some reviews of more hardware, particularly items that are currently available like HiSoft's Squirrel and Surf Squirrel SCSI adaptors, brand name modems like the Supra or USR Sportster or printers.

Distributor: Power Computing
01234 273000
PRICE: £119.95

OVERALL VERDICT: Only for the die-hards.

59%

CD-ROM round-up

DEM-ROM

Weird Science 0116 234 0682

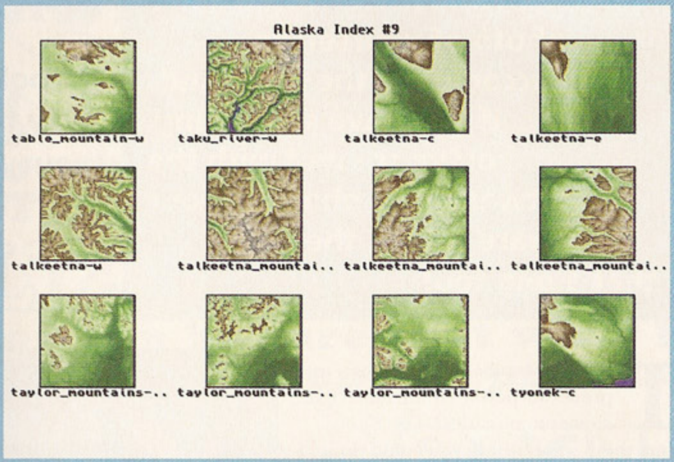
Anyone who remembers our excellent *Vista Pro* giveaway, or indeed, has the excellent if complicated *World Construction Set*, will know what a DEM is. If you don't, the acronym stands for Digital Elevation Map, which actually quite neatly describes what it is. Essentially a DEM is a huge file containing height values of terrain at a specific geographical location.

This disk does, as claimed, contain over 1000 DEMs. Which is good. Unfortunately, that is about it. They are organised alphabetically into drawers, but strangely, these are further divided into east and west drawers, so, for example, Aberdeen exists as Aberdeen.dem in the A/East and A/West drawers. This seems odd.

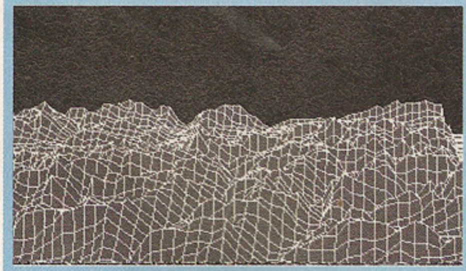
There is an index folder containing overhead topographically coloured images of each DEM file, but sadly, no viewing program, or even explanatory text.

All the DEM files seem to have been converted to the Vista format, but since there is no documentation, I can't guarantee this. It would perhaps have been nice to have some sort of interface to guide your way around, or even just a few text documents naming sets of DEMs with certain geographical features, e.g. volcanoes, islands, rivers etc.

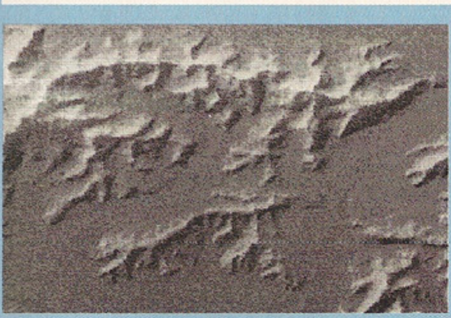
Still, it is a huge resource for anyone who has a DEM oriented graphics program, and cheaper than downloading the whole lot from the Internet.



The index shown above gives an idea of each DEM files terrain.



DEMs can be used in a variety of fractal software.



A *WCS* map render shows off the data nicely.

VERDICT 68% £14.99

EUROSCENE

Weird Science 0116 234 0682

There are some things that haven't been adequately explained about this CD. Firstly, although it is a compilation CD, it never actually tries to explain what exactly it is a compilation of. European software I suppose. One of the things I can tell you about what will not appear on the CD is any program which uses MUI. For some reason the submission advice (so I expect they are going to produce a series) states this quite explicitly, which I find very odd.

On this disk you will find mostly a large collection of images (over 170Mb), a few animations (40Mb) and a large number of demos (over 100Mb). There are only 20Mb of programs, 20Mb of "commercial" software (mostly demos), 12Mb of 3D objects and strangely, only 19 Mb of music mods.

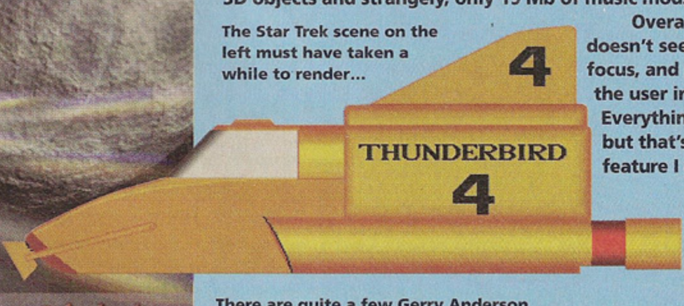
Overall, this collection doesn't seem to have any sort of focus, and nothing at all to guide the user into areas of interest. Everything seems to work okay, but that's the only redeeming feature I can find.



Some of the artwork on this CD is strange, but pretty.



The Star Trek scene on the left must have taken a while to render...

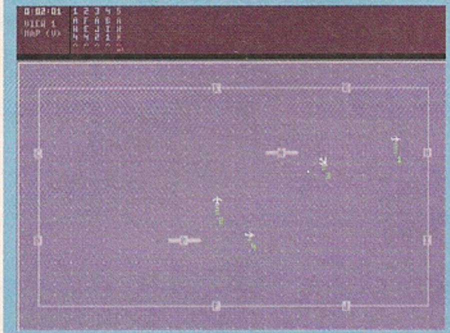


There are quite a few Gerry Anderson inspired pictures too.

VERDICT 44% £11.99

AMINET 17

Weird Science 0116 234 0682



Flightcontrol gets a bit intense. Now is that a blip on my radar or just a bit of egg sandwich?

Well, it's an *Aminet* CD. Surely everyone knows by now that Aminet is the largest Shareware archive in the world. It got that way because loads of noble Shareware authors and artists have kept posting their work there, for the whole Amiga community to enjoy.

In fact they post so much stuff that this disc, the 17th in the series, is almost full of completely new software, music, pictures etc. In fact there are over 570Mb of archived software here. I've no idea what that decompresses to, because it would take rather a long time, but it would be a lot...

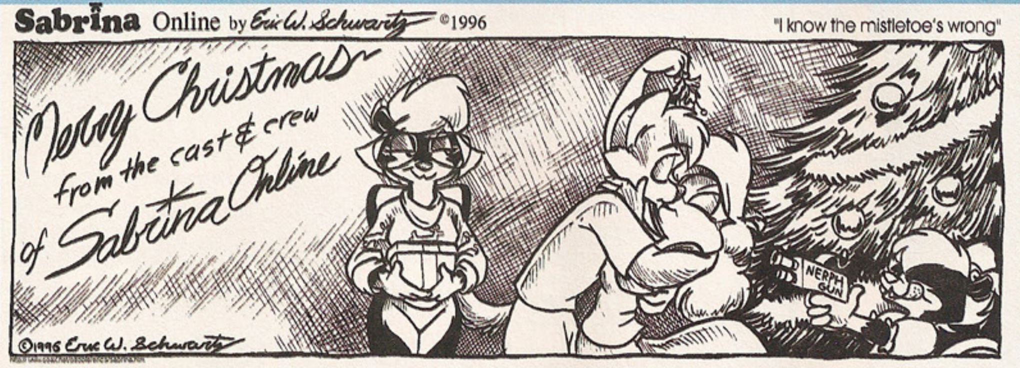
AMIGA GOLD FORMAT



There is an awful lot of artwork on this CD, much of it is superb.

The great majority of the new stuff on here is graphics related. Apart from the excellent new JFIF datatype, there are some really good MPEG files (a viewer is provided), and some excellent animations. There are quite a few games on here too, including the quite compulsive *Flightcontrol*, a sort of *Kennedy ATC* clone.

Continuing the trend of including full commercial software on the disc, Aminet 17 also comes with a full version of Cloanto's *Personal Write*, a functional if not fantastic word processor. This series is always popular, and always full of the latest shareware and PD.



A new batch of Eric Schwartz images appear on this CD.

VERDICT
90%
£14.99

MULTIMEDIA BACKDROPS

Weird Science 0116 234 0682

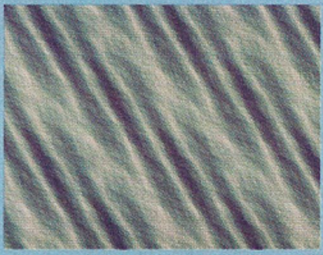
If you are a video or multimedia professional (or even a keen amateur), one thing you'll know is that you could always do with some more in the way of useful graphics.

This is the very demand which has led to numerous compilations before, and I'm sure this won't be the last one we'll see.

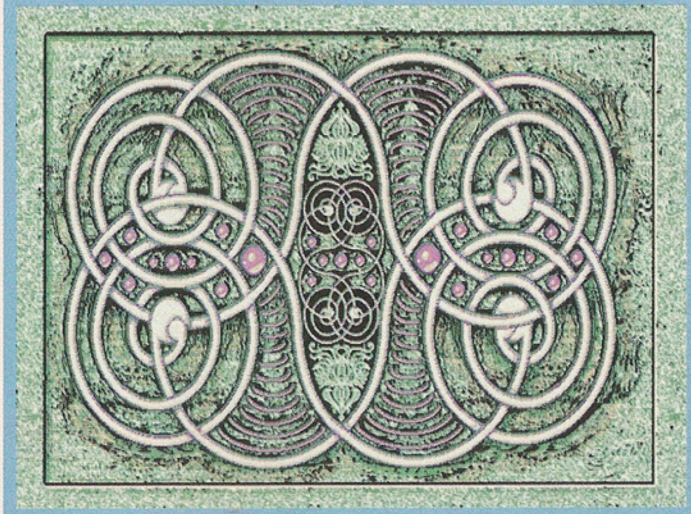
All the images are provided in IFF24, TIFF and Targa formats. I suppose it helps to cater for all tastes, but it does obviously reduce the number of pictures you can fit on a single CD. In this case we have just 100.



Sadly, there wasn't much in the way of information regarding the artists.



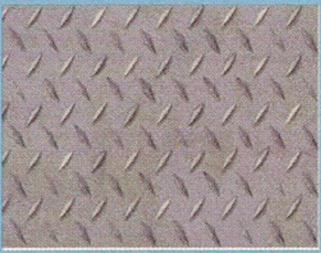
This image would be very useful for all sorts of presentations...



It's good, but on screen looks a little blurred – perhaps in the translation to PAL?

This wouldn't be too bad if they were all top quality images, but I'm afraid I can't say that is the case at all. Many are rather blurred, pale (and I realise these are supposed to be backdrops but...) or so simple that it would take about 30 seconds to construct them in *ADPro*.

Some are fantastic however, but even that is annoying. The legal readme says that not all the images are full PD – if you want to use them commercially, you should contact the authors. Even worse, I couldn't even find any details at all for any of the original artists. So it really is a bit of a non-starter.



Wheras this could also be used as a rendering imagemap.

VERDICT
40%
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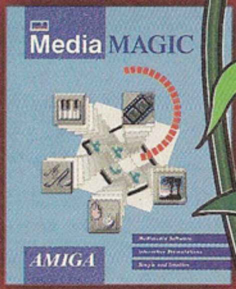
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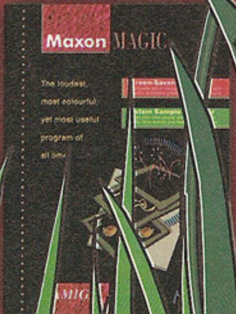


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Workbench

Printer problems? Finding your drive difficult to deal with? Whatever the sticky situation, Graeme Sandiford is the man with the solution. Just send your queries to: Workbench, *Amiga Format*, 30 Monmouth Street, Bath, Avon BA1 2BW.

HARD DRIVING

My current set-up consists of an A1200, Citizen printer and an HD disk drive:
1. Is it possible to connect a 1.28Gb IDE hard drive with a 10ms access time to my Amiga IDE interface?
2. Which is best, 10ms or 14ms?
3. What about EIDE, are these drives compatible?
4. What is MODE 4?
5. Should I make sure it is a slim 3.5" drive?
6. If I do decide to buy a hard drive, will this invalidate my warranty? If so, are there any authorised dealers who could install it?

W Phillips
South Wirral

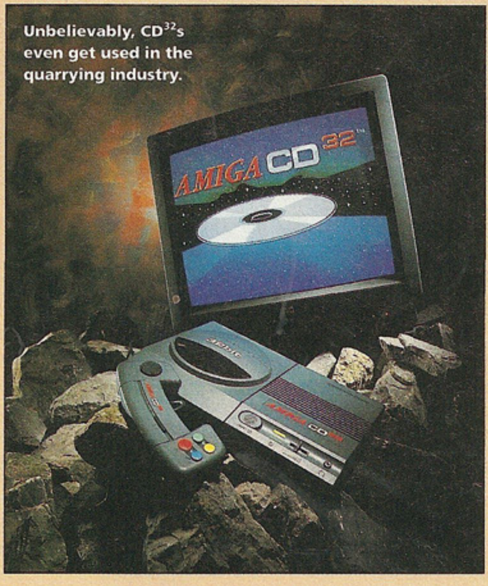
1. Yes.
2. As these are measures of access times, you need the fastest – which is 10ms.
3. Enhanced IDE is compatible. You probably couldn't buy a non-EIDE drive if you tried.
4. A protocol used by IDE disks, to do with speed.
5. Yes if you intend to fit it internally.
6. Buying the drive won't invalidate the warranty, but opening up the Amiga and fitting a 3.5" inch drive into an area designed for a 2.5" drive will. No matter who fits the 3.5" drive, the warranty will be invalid. That said, it's obviously better to let a dealer cock it up, as then you will have some redress. However, it's unlikely you'll end up with anything other than a working A1200 and hard drive.

TWO ARE BETTER THAN ONE

I have an Amiga A1200 and an Amiga CD32. I also have a connecting cable to combine the two. Please can you tell me what else I need to run the CD32 through my Amiga A1200? Do I need more memory? What size hard drive do I need, if any? How do I install the program from CD to hard drive and delete the same if no longer needed? Do I need an install disk to run together?

Paul Booth
Gwent

You need software, that's all. You don't need more memory, nor do you need a hard drive (although both are nice). You will need the networking software (probably a version of SerNet) on a CD-ROM which the CD32 will boot. When configured properly, this will then let you use the CD-ROM drive from the A1200, as an ordinary AmigaDOS device. Companies such as Sadeness or Epic should be happy to sell you the CD-ROM you need.

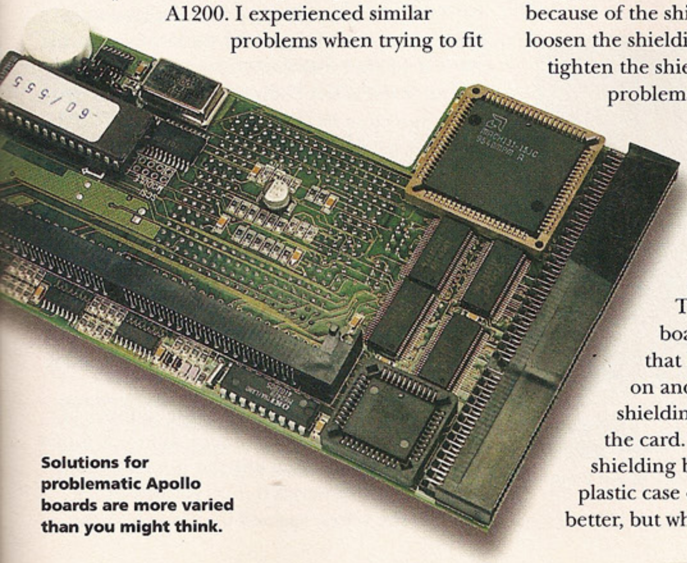


Unbelievably, CD32s even get used in the quarrying industry.

THE APOLLO PROJECT

I am writing in response to Colin Clifford-Smith's letter (*AF93*) in which he detailed his problems in fitting an Apollo to his A1200. I experienced similar problems when trying to fit a 4Mb expansion board to my machine. The trap door would close after a struggle but bulged ominously, and when I booted up there was no sign of fast RAM on the Workbench title bar and nothing showed in ShowConfig. In desperation I took my machine and board to a friend. He found that the shielding around the slot where the board fitted was too tight. To all intents and purposes the board seemed to fit snugly, but was not able to connect properly because of the shielding. The solution was to loosen the shielding, fit the board, then re-tighten the shield. Since then I have had no problems.

Dave Burgin
Northants



Solutions for problematic Apollo boards are more varied than you might think.

With reference to the letter from Colin Clifford-Smith (*AF93*) I suffered the same experience. I got the Turbo 1230 LC accelerator board, plugged it in and found that I couldn't get the cover back on and that a bit of the metal shielding looked dangerously close to the card. I decided to bend this bit of shielding back and cut a bit of the plastic case off. The card now fitted a lot better, but when I turned the computer on the hard drive loaded for just a few seconds then stopped and I was left with a blank screen. I took the card out and was faced with a yellow screen. I sent the card back to Power who tested it and said there was nothing wrong. Their technical support department suggested that I wiped the connectors with some meths or alcohol, which I duly did and now everything works perfectly and at quite a pace as well!

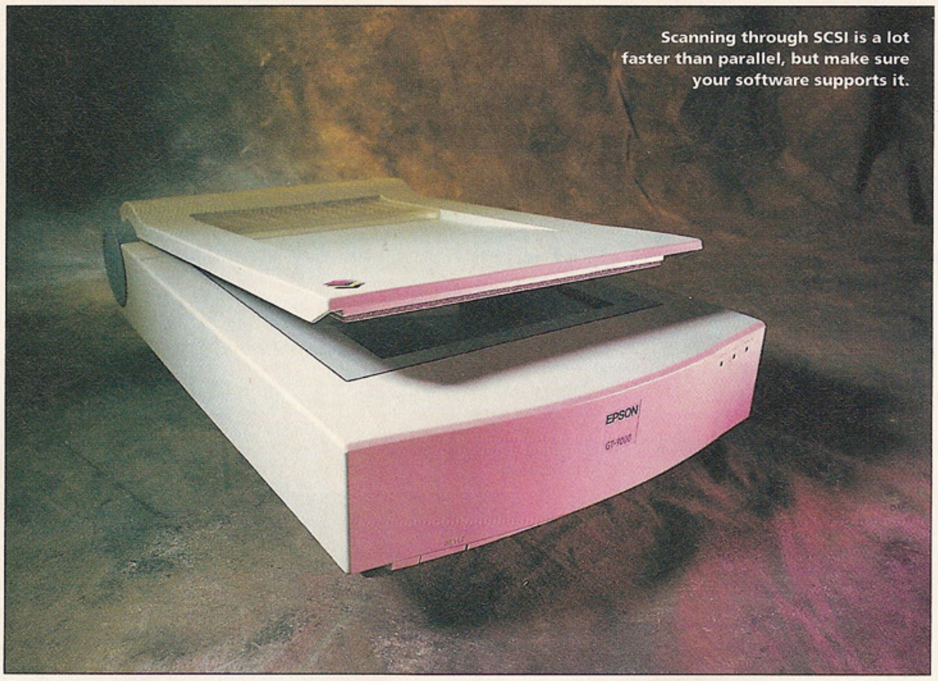
Keith Buddie
Linlithgow

Thanks to both of you – I guess there are variations in the design of the Amiga which means sometimes the metal shielding can foul the card. When fitting any hardware, it's always a good idea to check that the contacts are clean from dust or fingerprints.

TOWERING INFERNO

I have a Tower A1200 with ZorroII/III slots, an accelerator with SCSI interface, loads of RAM, a huge IDE hard drive, an 8-speed SCSI CD-ROM drive, an RTG graphics card with a scan doubler for a 17" SVGA monitor and a SyQuest.
1. I'd like a Lexmark jet printer 1020 but I've heard that it won't work with my Amiga because it uses the Windows printing system.
Is this true?

Continued overleaf ➡



Scanning through SCSI is a lot faster than parallel, but make sure your software supports it.

2. I've noticed some nice colour flatbed scanners for under £200 which fit in a SCSI or a parallel port. Which one is better for the Amiga I plan to buy?
3. The Internet providers in Greece don't know any other computer platform apart from Macs and PCs that can connect with the Internet. Because I'm a newcomer to the Internet, I was wondering if I can use Shapeshifter and Netscape Navigator for Macs with my modem?
4. Which RTG graphics card with optional (or not) scan doubler is the best?
5. I can postpone the purchase of the new Amiga and wait to see if Phase 5 or Quikpak produce a powerful Amiga computer. Do you think this is a good idea, or should I buy the Tower A1200 now? When a new model comes out, I could sell the parts that I can't use.

Fanis Dokianakis
Greece

1. If a printer says it requires Windows, then it does. Letting the PC do all the work, means some printers can do without large memories and custom processors and this means lower prices. Unfortunately, this also means that it cannot be used with the Amiga, the Mac or any other non-Windows platform.
2. I don't know which Amiga you are going to buy. If you going to buy one which has a SCSI interface, get the SCSI scanner as it will be a lot faster.
3. Yes you can. You can also use the Amiga – the Internet uses TCP/IP and the Amiga can talk TCP/IP. All you'll need to do is ask the Internet Providers to supply you with your IP address, the address of the DNS systems, your mail and news host, Slip or PPP, your ID and your password. You should then be able to configure AmiTCP or Miami to work perfectly.
4. We're waiting to see which of the new graphics cards reaches the office first. Then we can tell you!
5. If you need the computer now then get it. You could be waiting for something which might never appear.

POWER PROBLEM

My computer system consists of an A1200 with 3.5" internal 1.28Gb hard drive, 2Mb memory as standard with no Fast memory, Workbench 3.0, a Citizen Swift 200C printer, a Microvitec 1438 Multiscan U124X and a quad speed CD-ROM drive.

I am considering buying a Blizzard 1260 accelerator with as much fast RAM as I can get for under £100. Given my current setup, would my original A1200 power supply be able to cope? The CD-ROM drive, printer and monitor all have external power sources, but the hard drive and Surf Squirrel run off the computer's own power supply. If I need a new supply where can I get it ?

Donald W Millican
Glasgow

In this case you should be OK as the greedy CD-ROM drive has it's own power supply. I can't promise though, as the hard drive and a well-stocked '060 might just be too much. You'll know because you'll have weird crashes and the standard PSU might feel extra hot. If you do need more power, Eyetech (01642 713185) sell a beefier power supply unit.

WHAT A CASE

I have just been reading with interest your article on the Intrinsic Tower Case in *AF94*. For almost a year now I have been using a similar set-up on my A1200. It all started when I put a 2.5" hard drive and a memory expansion into my machine. I started to smell the power supply overheating. Attached to the machine was a Squirrel with a CD drive, but if I connected the four SCSI hard drives, how would I get near the Amiga for power adaptors?

First I paid £40 for a mini tower, then I opened up the case for my CD drive and put the drive into the tower. Next I took the SCSI connector off the drive casing, opened it up and attached it to a longer SCSI ribbon and screwed the connector to the rear of the tower. I then took my external floppy out of its case, put it into the tower and screwed the connector to the rear of the tower as well. To connect the floppy to the Amiga you would have to get an extension cable made up.

For the CD audio, I took the sockets off the CD casing and fixed them into the rear of the tower (I had to lengthen the CD audio cable to reach from the drive). Next I took a lead off the 5v power supply and attached it to a connector on the rear to power my speakers. The SCSI hard drives all just plugged into the ribbon cable with power fed into all the drives from the standard PSU connectors. The Amiga audio is fed up to the tower connectors (be sure to mark the connectors IN/OUT) and from there to the external speakers.

I then got my local computer shop to attach a lead to the PSU to power my A1200 (you may have to cut the cable off your original supply for this). I also bought an extension SCSI cable to connect my Squirrel to the tower and changed the plug on my TV so it would also fit the tower PSU. Now when I want to use my Amiga it's just a case of pushing one button and the whole lot fires up. One plug does the lot.

The only problem so far is the number of drives in the tower. When I took out my floppies or CDs they were just a little bit hot, to try and remedy this I removed the PC speaker at the front of the tower, opened up the slots at the

WHOOPS, GONE!

I own an Amiga 1500 and was recently attempting to remove a drawer from the hard disk. Unfortunately, I seem to have removed everything including Workbench, Tools and so on. I have been trying to replace them all via a floppy disk, but nothing happens, just a blank screen. Can you advise me what I need to do to get Workbench going again?

L Nelson
Oxford

Nasty. If your system boots to a totally blank screen, then there is a hardware problem of some kind. If it boots to a Shell window, it's possible you have deleted the startup-sequence, so try entering "LoadWb" and check to see if that makes a difference. The best solution is to boot from your Workbench floppy disks and then copy everything across to the hard drive.


Deleting drawers without being sure about them is a recipe for disaster.



The Intrinsic Tower System (*AF94*) allows for a much tidier set-up.

front for the airflow and installed a cooling fan from an old PC PSU. Since then, no problems!

M Skinner
Aberdeen

It helps being a DIY fanatic too! Yes, it's worth noting that when housing two or more drives it's usually a good idea to ensure there is adequate ventilation. The next stage in the project would be to house the A1200 inside the case too and hopefully we'll be covering such a project in the not too distant future.

FORMAT FAILURE

I have problems when I try to format my 2.5" hard drive. I get an error saying 'not a valid DOS disk' and 'not bit-mapped' or something like that. Also could you tell me which way the data cable is supposed to go. The red cable facing the back or front of the Amiga?

Mr P A Appleby
Sutton-In-Ashfield

Whoops! I hope you haven't been trying to connect the cable both ways round. As the 2.5" cable carries power as well as data, this can be dangerous. Always connect cables such that the wire with the red stripe is next to any pin marked "1". You'll see that there is a white numeral 1 printed on the motherboard, and this is the way you should connect the lead.

Before you can format a hard drive for the first time, you will need to "prep" it and fix the number of partitions. This requires the utility program HDToolBox which is distributed with some Amigas as part of the Workbench set, but it is also available in several compatible guises from Public Domain libraries.

Use this utility to read the necessary geometry information from the drive (heads, cylinders and so on) and then set up a Workbench and a Work partition, and mark the Workbench one as "bootable". Do not use any "low level format" options. When you quit HDToolBox (saving the settings) and restart, you should be able to use the ordinary AmigaDOS "format" command on the hard drive. Use FFS and QUICK to speed things up.

CD HK OK?

I have an A1200. It is impossible to find Amiga related products here in Hong Kong. I am urgently looking for a suitable CD-ROM drive, 8-speed or more, for my CD collection.

1. Is it possible to use a cheap IDE CD-ROM drive from a PC shop for the A1200? Please can you tell me where I can find all the hardware and software without the CD-ROM drive itself, or the DIY kit?
2. I am also considering upgrading my A1200 to an '040 or '060 with either a Blizzard A1240T/ERC or a Blizzard 1260. Can you recommend any accelerators? Also, can I use a RAM card, 16Mb and 32Mb for PCs, or do I have to order an accelerator with RAM included?
3. I have been told that '040 is too hot for the A1200 and must be on a Tower system. It would be very expensive if I buy these heavy items by mail order, so would I be able to make one myself? Could you let me know how and where

Continued overleaf ➡

HOW FAST?

1. How can I work the menus at the top in 3DCK 1 when the mouse doesn't respond?
2. My A600 power supply sometimes stops the sound, but when I jerk it, it works, do you know what is wrong
3. What is the cheapest 40Mb hard drive on the market?
4. What speed (in MHz) is an un-expanded A1200?

Paul Bowen
Birmingham

1. I don't know what 3DCK is so I'm afraid I'm not much help.
2. Do you mean the PSU itself makes a sound, or is the sound coming from the Amiga? If it's the PSU, it could be that it's about to break. A healthy PSU should be quiet. If it's the Amiga, it could be a loose lead somewhere.
3. A second hand one. You can't buy drives that small new these days.
4. The A1200's CPU runs at 14MHz, and the custom chips at 7MHz.

SCATTY SCSI

My Amiga system consists of an A1200, Kickstart 3, 30Mb Zappo Smart Stor (PCMCIA port), 2Mb fast RAM, DataFlyer SCSI+ interface driving a Compaq 2x speed CD-ROM drive and a SyQuest EZ135.
1. The whole set-up has worked for over a year until this week. The SyQuest and CD-ROM didn't show up on my Workbench, but returned after some 'tinkering'. This happened a few times until finally they did not return. The Dataflyer driver command 'DFMOUNT' just doesn't 'see' the SCSI devices (using ExpEDS.device) as if either they aren't connected, or no Dataflyer interface is fitted. Do you think the interface is faulty? I have tried removing each device from the SCSI chain in turn so neither drive appears to be at fault.
2. If the Dataflyer is the problem, I want to replace it with a Squirrel, but as I boot from my Smart Stor I must be able to boot from my SyQuest via the Squirrel – Can you boot from a Squirrel? (The Dataflyer needed software drivers).
3. I have acquired a second hand 2.5" IDE drive which I could fit internally, making my Smart Stor redundant. It came without cables from a PC, so I've bought a suitable cable from a PC shop. When I tried to fit it in, it spun up, but my Amiga didn't do anything, not even showing 'insert disk'. The drive's former owner said an Amiga-owning friend had a similar problem, which they solved by cutting the line to pin 1 on the cable. Is he right?

Rob Marris
Barking

1. I would check the SCSI cabling very carefully, and also the termination. You have terminated the last item in the SCSI chain, haven't you? If this makes no difference, it does sound like a faulty SCSI interface, although it would be worthwhile testing the cables and peripherals on another machine if that was possible.
2. You cannot boot from a Squirrel, although I understand you can boot from a Surf Squirrel. HiSoft (01525 718181) will be able to advise you.
3. First of all, the hard drive won't appear on the Workbench until you use the HDToolBox utility to prep and partition it. Then you can format it from AmigaDOS. Yes, cutting pin 1 sometimes makes a difference, but most notably it lets some makes of drives (IBM I seem to remember) boot from a cold start, not just a warm start.



If your EZ drive isn't appearing on Workbench, perhaps you need to check your SCSI termination.

I could find the essential items? Is a Tower system also a possible solution to supplying sufficient power to an upgraded system?
4. Like many Amiga users I am forced to use a PC at the office. I am considering buying a Zip drive or an HD drive as a way to exchange media. Can I use the Amiga with any other kind of Zip except SCSI? If the SCSI is the only way, which is best out of the HiSoft Squirrel and the SCSI-IV kit? Are there any places that would sell Zip Tools software separately?
5. Finally, if you know of any ISP support for the Amiga in Hong Kong, please let me know, I'm not the only one in desperate need out here!

Henry M K Chung
Hong Kong

1. Yes, it's possible to connect an IDE/ATAPI CD-ROM drive to an Amiga, but you will need special cables and a piece of hardware to buffer the IDE interface is recommended. Try talking to EyeTech (or emailing the cheapest way! Eyetech@cix.compulink.co.uk) as they supply all the parts you will need.
2. Both accelerator cards are excellent, and will make a huge difference. You should be able to use any 72-pin SIMM which operates at 60ns.
3. Yes, the '040 runs hot and you will either need to re-house the A1200 or provide some ventilation. You could, for example, prop the A1200 up a few centimetres above the desk and use a CPU cooler. A1200 Tower Systems are often discussed but rarely sold. You could make one yourself by buying a large PC case and mounting all the Amiga's bits and pieces inside, using a PC keyboard via an adaptor. The PC PSU can power the Amiga.
4. No, the Amiga will only use the SCSI format Zip drives. This means you will either need a SCSI interface for the PC, or a PC parallel port version of the Zip drive for work and a SCSI version for home. You should then be able to use CrossDOS to mount a Zip drive formatted for the PC on the Amiga.
5. If you are looking for Internet access, the best place to find it is (ironically) on the Internet. Find a cybercafé or university student willing to let you surf and then search for providers.

INTRINSICALLY DUFF ELECTRONICS

I bought a used 840 3.5" hard drive (Quantum Trailblazer) for my A1200. It has Windows installed on it and now I'm having trouble in getting it to work. When I connect the HD to the IDE-connector the computer goes nuts and some green and black lines appear on the screen. I can't use the system until I disconnect the HD from the IDE-connector (I can still have the power cable connected to the disk drive power connector). I thought that my PSU was too weak, but I can draw power from the disk drive connector to the HD and still use the system.

Could it be that my IDE-connector in the computer is broken? My last HD (a 40Mb 2.5" Seagate) broke. When I boot my machine with my old HD, nothing happens except that my computer makes a tweeting sound and the screen remains blank. How can I use this HD with my computer?

Tommy Ohlson
Sweden

When you say that your first hard drive is broken, are you sure it's not the IDE interface? You should check both drives (preferably on a PC). Then make extra sure the IDE cabling is working and connected properly.

If that hasn't solved your problems, then it very much looks as though your IDE interface is defunct. Sorry.



HiSoft's Squirrel and Surf Squirrel open up a whole world of external SCSI peripherals for your machine.

IF YOU HAVE A QUERY...

At *Amiga Format* we aim to answer as many questions as possible. Unlike some magazines, we don't just concentrate on our areas of expertise – we take on all your problems (as long as an Amiga is involved).
Here are a few tips on sending in questions:



Graeme Sandiford

- Be concise.
- Detail the problem as best as you can.
- Describe the events that caused the problem.
- Give full details of your equipment.
- Make sure your question is relevant and wouldn't be more easily solved by contacting the dealer from whom you bought the goods.

Bear these points in mind and fill in, photocopy, or copy the form below as best you can. Unfortunately we cannot reply personally.

Send your letters to Workbench, *Amiga Format*, 30 Monmouth Street, Bath, Avon BA1 2BW.

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Kickstart version

○ 1.2 ○ 1.3 ○ 2.x ○ 3.x

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....

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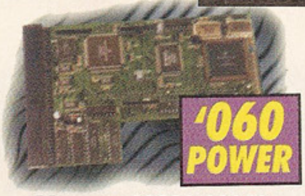
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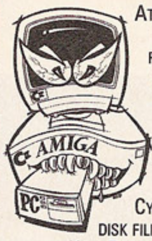
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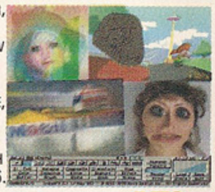
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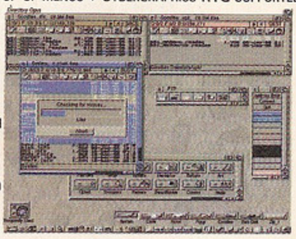
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Darren Irvine shows you how to extend the World Wide Web right into your own Amiga.

Last month we took a look at how it was possible to offer connection services such as FTP and Telnet from your Amiga. This can be done using additions to your TCP/IP stack known as daemons. Just about every kind of service available across the Internet operates in this way, including the protocol that offers pages on the World Wide Web, known as HTTP or HyperText Transfer Protocol.

The HTTP daemon itself (rather predictably called httpd) has been available for sometime under public license, and so has been ported to just about every available machine, including the Amiga. There are in fact several implementations available for the Amiga, but for this example I'm going to concentrate on the port of the original http daemon, developed by the people who originally came up with Mosaic. This is available from any of the Aminet mirror sites.

You might be wondering what the point in actually setting up your Amiga for WWW page serving is, since a: your machine won't be on the net permanently (unless you have done a deal with the devil, or worse, BT) and b: your ISP probably offers a certain amount of free webspace anyway.

But setting up your Amiga in this way is an excellent aid to Web page development – although you can load in pages locally, setting up your machine for HTTP serving means you can get a second opinion on your design from remote users, without having to actually upload the pages to your ISP.

INSTALLING THE HTTP DAEMON

Although the World Wide Web is what most people think of as actually "being" the Internet, and it's undoubtedly important, the actual mechanism by which Web pages are served is simple, and this is reflected in the ease of setting up the appropriate daemon. The installation is straightforward, with only two or three steps.

1 Once you have downloaded the archive, create a directory beneath your current *AMosaic* directory called "HTTPD" and unarchive the file into it. You should also setup a similarly named assignment "HTTP:" to point to this new directory – adding this assignment to your s:user-startup file is probably a good idea (remember to re-boot for this to take effect).

2 You must add a configuration line to the "SERVICES" file which can be found in the directory AMITCP:DB. Add the line at the bottom of this file in the following format:

```
http          80/tcp
```

3 You may also need to add a line to the file "INETD.CONF" (some implementations of AmiTCP seem to have this pre-installed) in the same directory as follows:

```
http stream tcp nowait root http:httpd
```

After rebooting your machine, your Amiga will now be ready to act as a Web page server when

SETTING UP YOUR WEB PAGES

This isn't by any means intended to be a comprehensive guide to Web page design, but rather if you are a complete newcomer to the concept, a few tips to get you started.

HTML documents themselves are plain ASCII text, and so can be created using any text editor. An HTML document contains special HTML formatting codes known as "Tags" which are used by the Web browser viewing the document to format what appears on screen. These tags are used to determine things like what font text should appear in, and for including links to other pages and graphics files.

CREATING A NEW PAGE

Using a text editor, create a file in your http:docs directory called TEST.HTML and put the following text into it (note that you must include the angle-brackets around each tag):

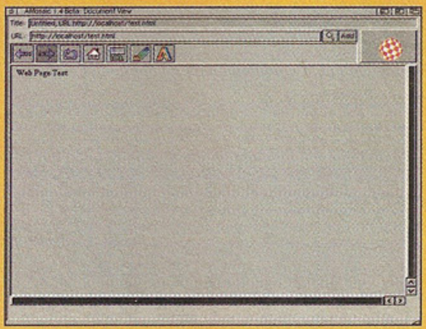
```
<html>
Web Page Test
</html>
```

You will have noticed that the second tag has a slash before the text, inside the angle brackets. This denotes the end of a tag section.

Save this page and open the following URL using AMosaic:

http://localhost/test.html

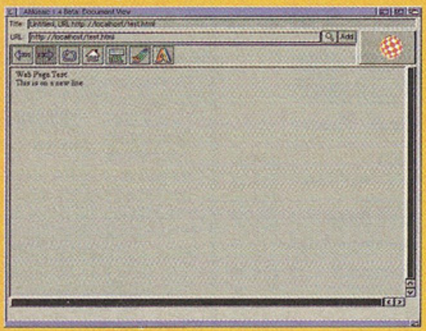
You will then see your first web page like this:



Next, try to add more text. When you want to specify that text should be on a new line, include the tag "
" – just putting it on a new line won't do. If you want to leave a blank line, use the "<p>" tag. Try the following:

```
<html>
Web Page Test<br>
This is on a new line
</html>
```

Clicking on the Reload button should display the following:



TEXT STYLES

If all the text in your documents looked liked this, things would get boring rather quickly, but thankfully HTML provides lots of scope for changing the way text is displayed. Note that each of the tags has an equivalent preceded by a slash which turns the option off. The styles available are:

On Tag	Description	Off Tag
<h1>	Text Size 1 (very large)	</h1>
<h2>	Text Size 2 (large)	</h2>
<h3>	Text Size 3 (medium)	</h3>

you go online, and you can of course test this facility offline. First off all you'll actually need some Web pages to look at – check the boxout if you're not sure on how to get started with Web page design. Run AMosaic, and open the following URL

http://localhost/

And you should see a screen similar to the one shown below.

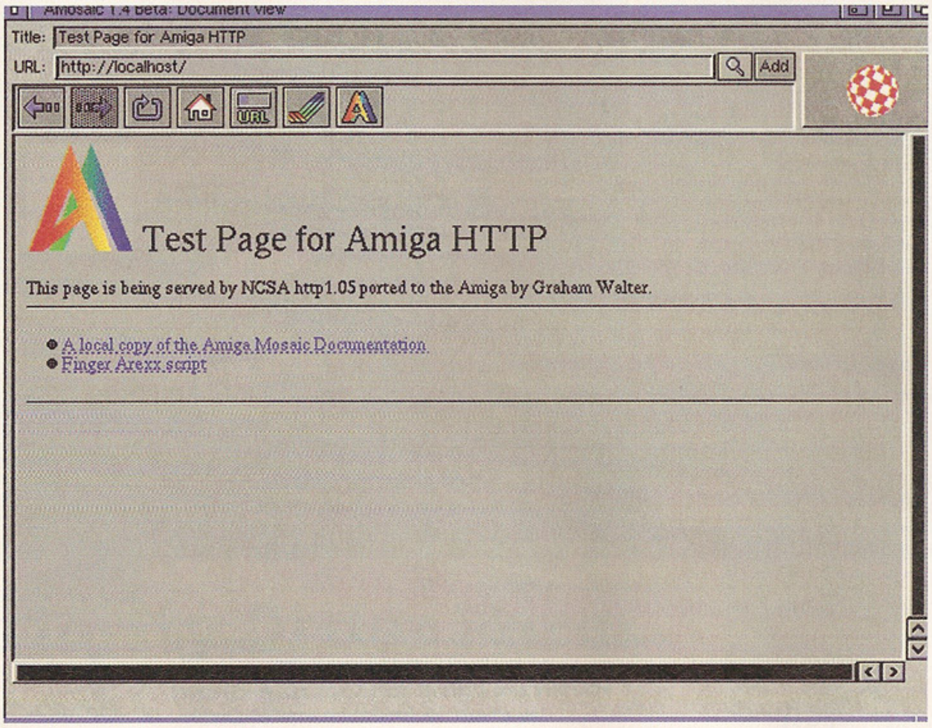
This is the visual equivalent of the HTML source code found in the file INDEX.HTML which is located in the "DOCS" directory below HTTP:. From here you can use the links which are to documents also stored on your own machine. When you are actually connected to the Internet, other users will be able to access your pages by using a URL which is composed from your normal Internet Domain name. For instance, my Domain is

plasma.thegap.com

and so the URL needed to access my Web pages is

http://plasma.thegap.com/

Note that unless you explicitly specify a filename as part of this URL, the default file used will be HTTP:DOCS/INDEX.HTML.



If you can see this page at http://localhost/ then you've got your Web server up and running.

AMIGANET PLUS:

Of course, the average Amiga word-pro isn't really intended to produce HTML pages. However, you can always set up macros in an ARexx capable text editor (such as TurboText), or take advantage of some of the web creation utilities other Amiga users have come up with:

WEBPLUG
<http://www.arrakis.es/~axe/stv/webplug.html>
A really quite excellent MUI based HTML creation program. A host of handy features should speed you to creating great pages.

AWEBEd
<www.dungeon.com/~music/awebed.htm>
As you might expect from the companion to the AWeb browser, this HTML editor does not require MUI, so if you loath MUI, this is probably the software for you.

BUTTON STRIP
<www.icbl.hw.ac.uk/~cjs/cbs/index.html>
For those of you with a copy of final writer, this addition will provide an extra set of useful buttons for marking and formatting your text into an HTML readable form.

CRASH COURSE IN HTML
<www.w3-tech.com/crash/>
For the absolute beginner, this site is well worth a look. It explains everything from how to set text, colours and backgrounds, right through to using nested frames. It's all explained clearly and with lots of examples.

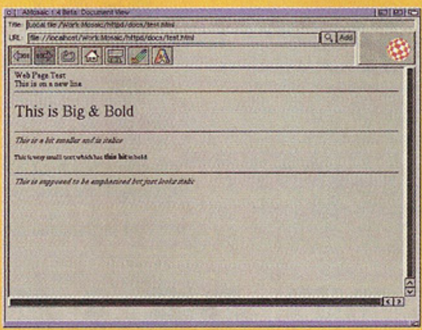
HTML EXAMPLES
<www.dcn.davis.ca.us/~csandvig/ip/example.html>
This tutorial is rather short and simple, but very easy to read manner. There's a huge example, with source on one side of the document, and the result on the other.

<h4>	Text Size 4 (med-small)	</h4>
<h5>	Text Size 5 (small)	</h5>
<h6>	Text Size 6 (very small)	</h6>
	Bold	
<i>	Italic	</i>
<u>	Underlined	</u>
<tt>	Typewriter font	</tt>
	Emphasis	
	More Emphasis	
<pre>	Don't Format	</pre>
<hr>	Insert Horizontal Line	
 	Line Break	
<p>	Skip Line	

Change TEST.HTML to contain the following:

```
<html>
Web Page Test<br> This is on a new line <hr>
<b><h1>This is Big & Bold</h1></b> <hr> <i>This
is a bit smaller and in italics</i> <p> <h6>This is
very small text which has <b>this bit</b> in
bold</h6> <hr> <em>This is supposed to be
emphasised but just looks italic</em>
</html>
```

And the results will look like this – note that certain browsers such as AMosaic don't handle some tags such as <em> properly.



HTML LISTS

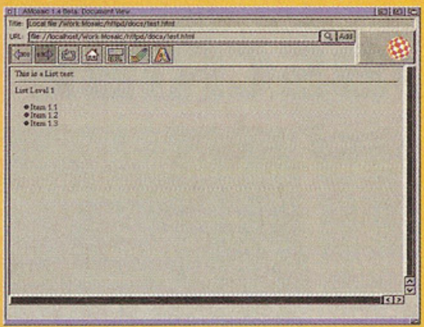
Browsing the Web, one of the things that you will notice is that a lot of the information contained on many pages is in the form of lists. As if by conincidence, setting up lists is something that HTML is very handy for, with nice little features such as bulleting and multiply indented lists are handled with ease. The main list formatting tags are as follows:

On Tag	Description	Off Tag
	Unordered List	
	Ordered List	
	List Item	

Try changing the text in TEST.HTML to:

```
<html>
This is a List test <hr>
List Level 1 <ul> <li> Item 1.1 <li> Item 1.2 <li>
Item 1.3 </ul>
</html>
```

The results look like this (note that nice little listing bullets have been inserted for you) :



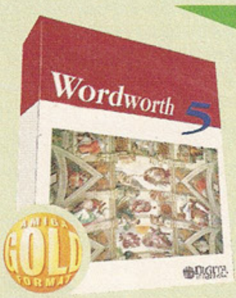
We haven't even touched on how to add graphics to your pages, but you should have a few clues as to how it works. Next month we'll take a look at more advanced HTML.

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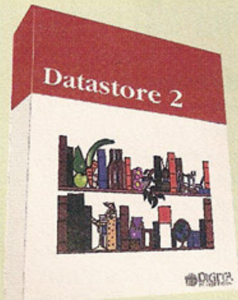
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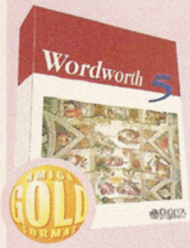
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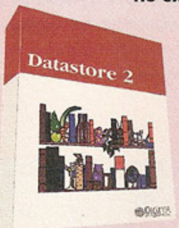
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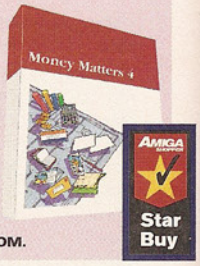
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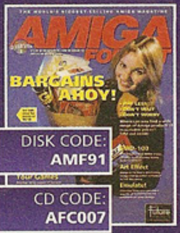
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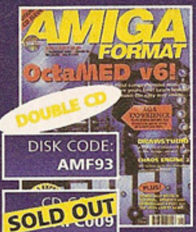
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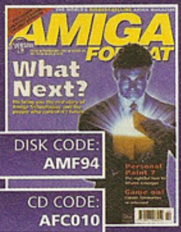
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Nick Veitch

Finally I have the ultimate answer to all those people who claim we never tackle tough things in our tutorials.

If Paul Overaa's latest ARexx tutorial isn't tough enough for you, I'll eat something unpleasant. That is, it isn't tough, but it does tackle a subject that causes many people bad headaches. Not like Paul. Who is a nice bloke actually.

The more faint of heart may like to move swiftly on to a rather tuneful offering from the keyboard of our *Music-X* supremo, or even boggle at the realistic falling snow effect Mr Sandiford has conjured up for us this month.

Oh, and be sure to check out the last in Ben's series of multimedia tutorials. This closing installment deals with some of the finer details you'd be foolish to forget.

SEND IT IN!

We need your input. Is there something that you would like to see covered in one of the current tutorial series? Why not send your suggestion to us at the magazine. Here are some things you might like to think about:

AREXX

Commodore's excellent decision to include ARexx with Workbench was only matched by their stupidity in not documenting it properly. If you are having trouble why not write to us with a description of what you are trying to do?

PAINT PACKAGES

Unsure of how to get a particular effect? Do you think there must be an easier way? Our experts could help.

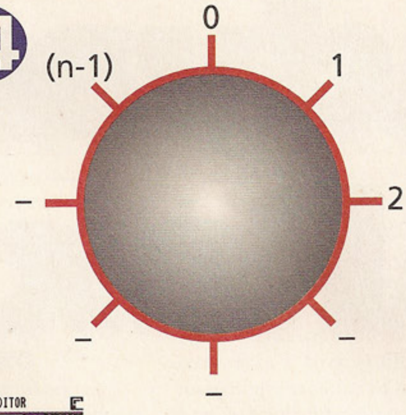
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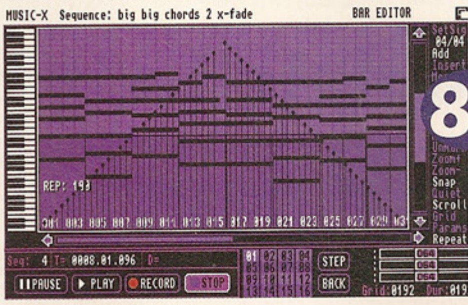
Surely some of you have some questions about our latest 3D giveaway?We're here to help.

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84 ADVANCED AREXX

When we say advanced, we mean the concepts are advanced too. Please fit a cooling fan to your brain before proceeding...





88 MUSIC-X

Oeeer. Big pictures with lots of numbers and things – but what does it all sound like? Believe it or not, this is **Mr Irvine** demonstrating interesting fade techniques.

90 REAL 3D 2

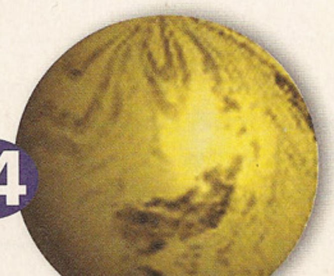
Only a few month's out of date, check out **Mr Sandiford**'s snow tutorial. And be sure to join us at Halloween, when we'll be showing you how to model an Easter egg...





92 MULTIMEDIA

The final chapter in **Ben**'s rather tremendous multimedia tutorial. Find out whodunnit this issue...



94 CINEMA 4D2

Mr Kennedy is intent on showing you how to get the most out of our excellent Coverdisk giveaway – don't disappoint him now will you.

Advanced ARexx Coding

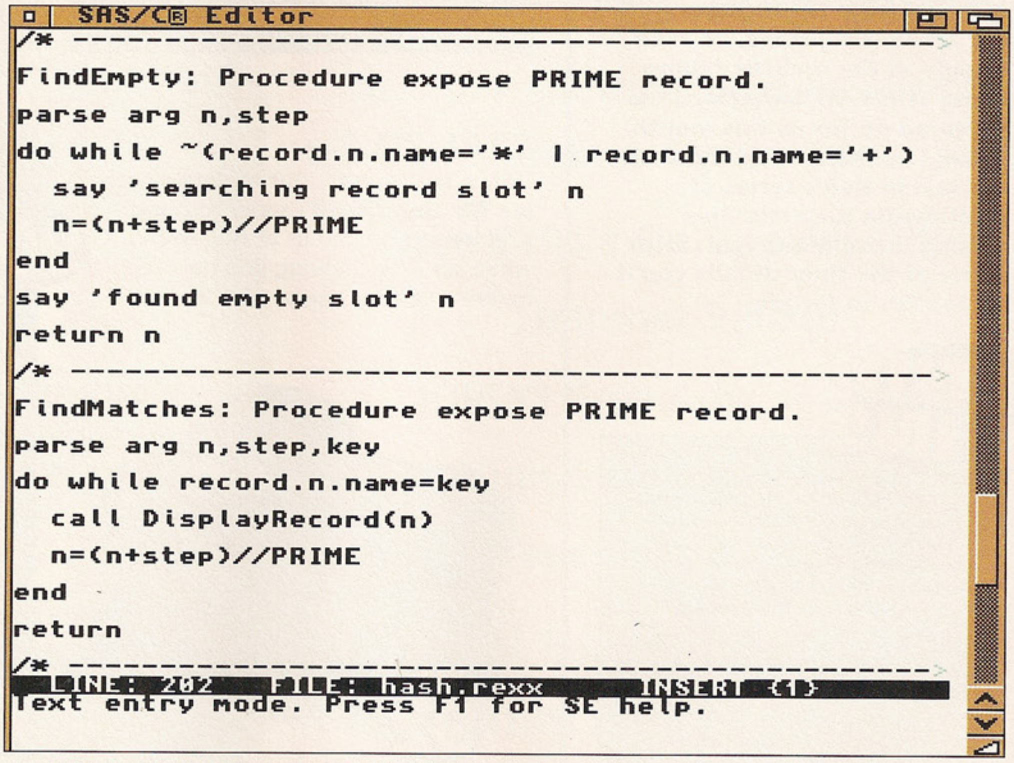
Making a complete hash of it!

No, this is not about having an off day – it's another tutorial from Paul Overaa and this time he's tackling a subject that's long overdue for some exposure...

Let's face it – computers spend much of their time searching for things. It's hardly surprising then, that lots of clever methods have been developed which make searching fast and efficient. One technique, known as 'Hashing' or 'Key to address Transformation', is particularly important because in suitable cases it becomes possible to achieve retrieval speeds that really are spectacular – and that appear to be almost independent of the size of the file

AWKWARD MATHS

The only trouble, and the main reason why this technique gets relatively little exposure in most computer mags, is that the theory involves some awkward mathematics. What makes things worse is that, unless these underlying principles are understood, it's nigh-on impossible to appreciate the purpose of typical example code. The good news at this point is that there is a particular class of hash functions that lend themselves well to being explained diagrammatically. In fact after a few simple experiments, chances are, you'll not only know very clearly how the underlying search mechanism works, but you'll have acquired some footholds that may help you understand other related methods you come across.



The underlying hash access approach used in this month's example script is much the same as that used by some heavyweight database programs!

"...chances are... you'll have acquired some footholds that may help you understand other related methods."

The first point to make is that although hashing is used for searching files it's not the sort of 'find record N' type approach that you normally use when looking through a file. Hashing techniques try to calculate the location of a record by using some known characteristic of the data being stored. The easiest way to explain this is to have a look at an example and consider the general characteristics of converting a key, i.e. a record identifier, into a record number or location: Suppose, for instance, you were writing an 'address book' type program and wanted to include the ability to search for a person's address details by supplying just a surname. If the name 'Jones' was entered, the program would respond by supplying a list of details for all the people on file whose surname was Jones. You might, if you were a company, have thousands of names in this computerised address book and in such cases an efficient search procedure would be needed – users certainly would not want to wait for several minutes whilst the computer

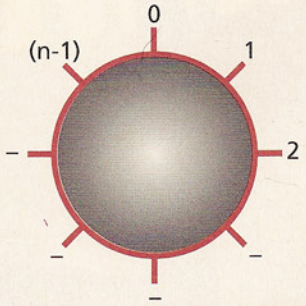


Figure 1: The concept of a circular file.

RECORD No.	KEY	OTHER FIELDS
0		
1		
2		
–		
–		
(n-1)		

sifted through a file picking out the Jones from the Smiths etc. Essentially instantaneous retrieval is needed – no matter how large the file!

Let's suppose however, that it were possible to find some rule that used the letters present in the surname and converted them into a unique number, which was the location of the record containing the required information. The existence of this function would mean that we could firstly calculate exactly whereabouts in a data file a given set of details should be stored, and secondly it would mean that this information could be retrieved by computing the record number from the surname provided. In other words it would enable us to access these records without having to do any real searching at all!

BUT IT CAN'T BE DONE CAPTAIN!

OK, it's pretty obvious that, in general, no such rules exist. But if we relax the condition that the function must produce 'unique' numbers, and be content to have a situation where different surnames occasionally produce identical computed record numbers, then we enter the world of Key to Address Transformation or 'Hashing'. When different search keys produce the same computed record number the possibility arises that the record retrieved will be the wrong one. These occurrences are termed 'collisions' and one of the absolute requirements of a good hash function, is that it can handle these collisions in a foolproof way.

KEEP ON CRASHING

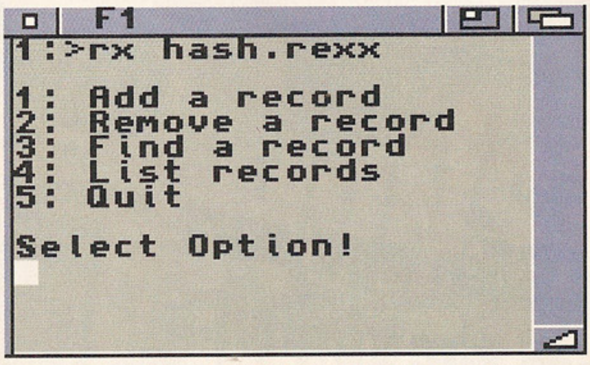
If a collision occurs, a second attempt to locate the correct record must be made. If this also results in a collision then further attempts must be made until either the correct record is located – or until we are completely sure that the record does not exist. For obvious reasons it is important that, in the worst possible cases, we are able to examine every record in the file. To add data to such a file we use the same hash rules that are used to retrieve data, but during data addition we are searching for empty records rather than particular key fields. If the record corresponding to the first calculated record number contains data already, then further attempts have to be made until an empty record is found.

Right, you've had a general outline of the process, now let's look at the details: To simplify things I'm going to consider only hash functions which operate on files that have pre-defined constant maximum sizes and illustrate the development of one particular class of hash functions using the concept of a 'circular file'. This involves imagining that a file of 'n' records are wrapped around a circle with record numbers ranging from 0 to (n-1) as shown in **Figure 1**.

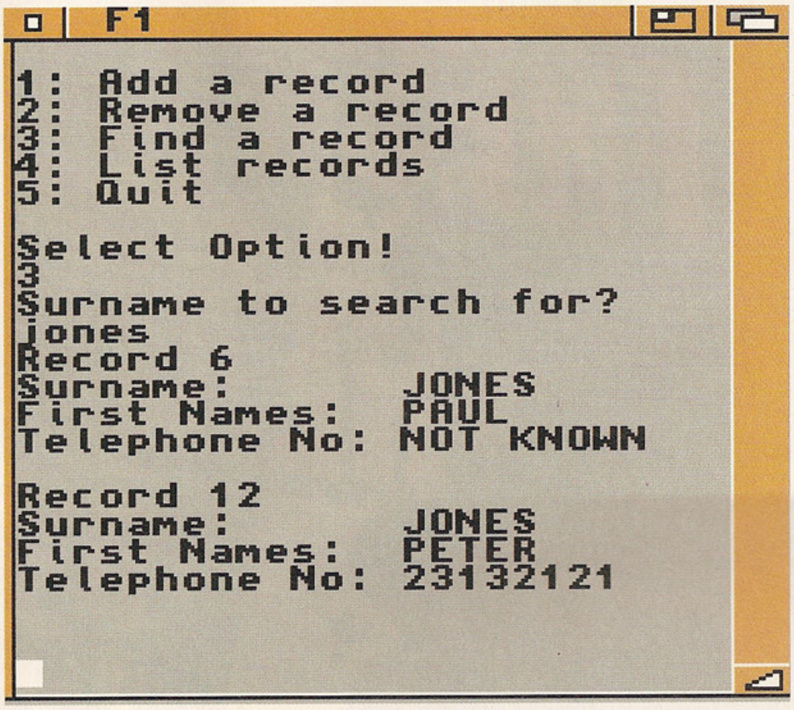
So, if we want to create a data-file based on the 'circular file with fixed step length' concept, we can now see exactly what we must do to ensure a proper search. Either we make sure that our step length is a prime number, or we make sure that the maximum file size is a prime number. In these cases, because there are no common factors, we know that this will enable us to (in the worst possible case) search the whole of the data-file.

"One of the absolute requirements of a good hash function, is that it can handle collisions in a foolproof way."

Neat eh! I hope you've followed that so far. Next month we'll be giving you some example script to play around with. See you then.



To run the example script you'll need to open a Shell window and use the RX command!



If you create a number of different records involving the same surname you'll see that the example script's Find option will be able to locate them all.

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Music-X

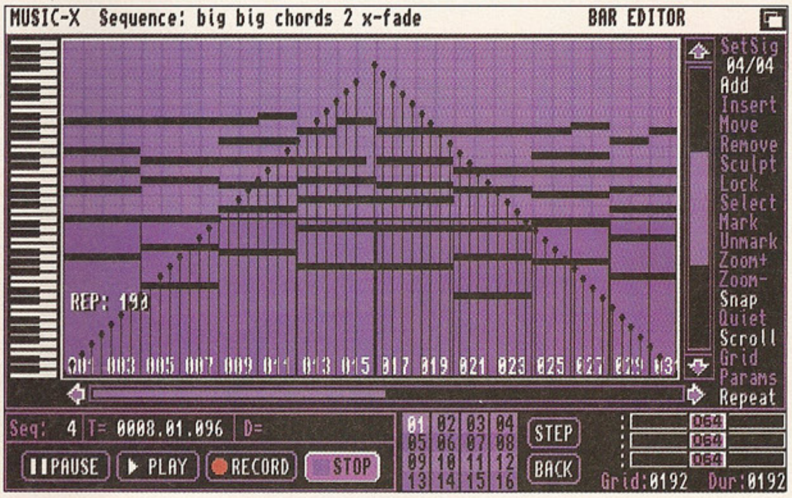
CONTENTS

Darren Irvine delves even deeper into some of the obscure but wonderful-sounding things that you can achieve using *Music-X*.

This series so far has shown how easy it is to take a number of recorded play sequences and combine them to form the basis of a song. We've also looked at how using simple effects such as echo can greatly enhance the overall sound. This month we'll take a look at some more effects that can make your sound individual and exciting.

MUTING EFFECTS

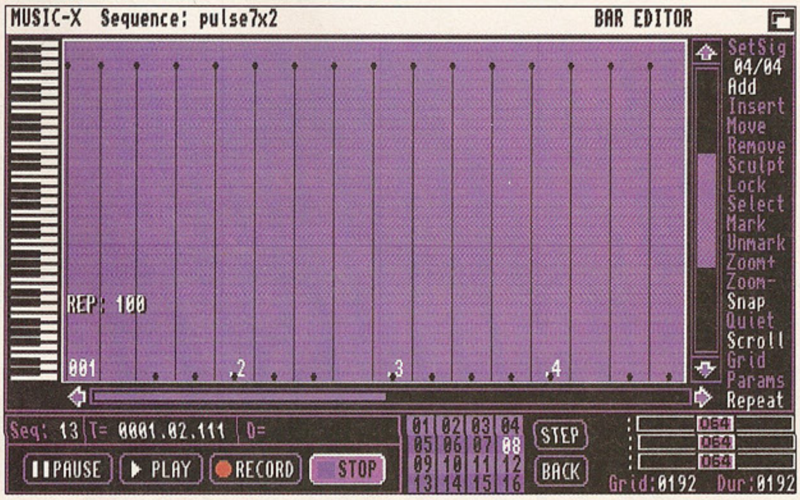
Clever use of MIDI volume information, along with a good dynamic synth patch that changes in timbre over time, can produce brilliant stuttering effects. The idea here is to record a track of long sustained chords on a given MIDI channel and then to produce a control sequence of MIDI volume commands to play on the same channel. You should probably be able to work out how to record some nice slow chords on your own (and if you can't, then it's time to dig out your copy of *Amiga Format (AF93)* from a few months back), but here's how to do the rest.



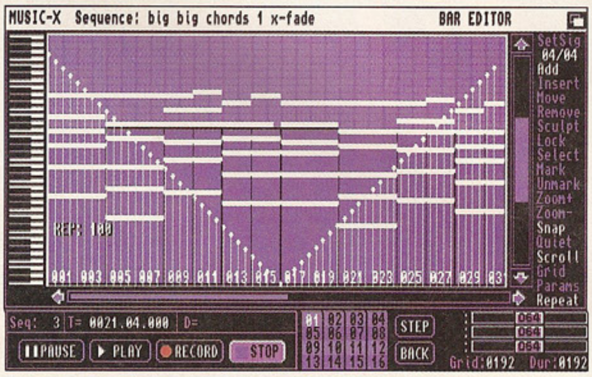
This is the same sequence, playing a different sound, and this time fades in first, and then back out. The combination of the two effects is what makes it interesting.

Start by EDITing a new play sequence. Move the end of sequence marker over to the right, and click on "Add" from the right of the screen. Click on "Control Change" and then on "OK". The top slider of the three at the bottom left will become the parameter for the control change – that's, the MIDI control change you are adding. We want controller 7 which is the MIDI channel volume controller, so just drag the slider until it's at seven, after you add your first control change. Any new changes will automatically be 7s.

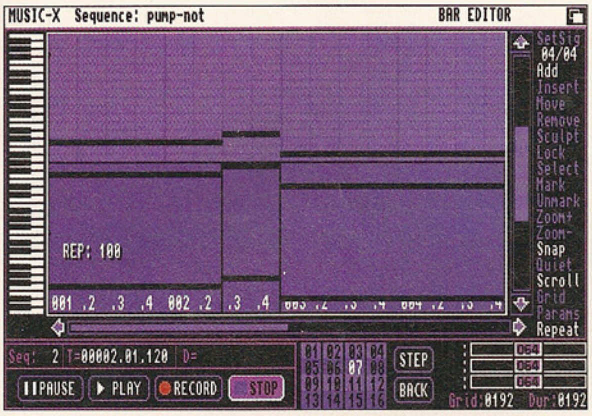
Click on the edit window wherever you want a volume change to occur. The further up the screen, the louder the MIDI channel will play, the further down, the quieter. For example, you might want to put a full volume at the start of every quarter note, and a zero volume control change in between all the full ones. This will produce a stutter effect, much as if you had played a series of semiquavers, but the timbre of the sounds will still change with time – as if you had played normal long chords whilst changing filter effects.



This is just a sequence composed of a series of fast full-on and full-off volume changes, producing a stuttering effect for any sound on the same channel.



This sequence makes use of controller 10 to fade right out and then back in again. This panning effect can work really well.



The quick volume changes can completely transform a simple chord sequence like this one.

A bit of tinkering around in this area can produce some really stunning results. An important point to make here is that, as with ordinary notes, control changes often benefit enormously from being quantised.

PANNING

If your synth or module supports stereo (and nowadays all of them do), a lot of fun can be had by making use of the MIDI pan controller. You can use these in a similar way to the MIDI volume controller, by adding control changes in the edit window.

This time, use control change number 10 and add the control changes in much the same way as the volume ones. The further up the screen, the more left your patch will be panned, and the further down the screen, the further right in the stereo field your sound will appear. Of course, if you have your sound module output plugged in the wrong way round, this will be back to front. Or is it upside down?

"A bit of tinkering around in this area can produce some stunning results."

Percussion tracks in particular can greatly benefit from having individual instruments panned differently. For instance, a set of toms sounds more lifelike if panned from left to right instead of all being in the same place in the stereo field.

FILTER SWEEPING AND CROSSFADING EFFECTS

There are a number of useful effects that can be achieved by playing the same sequence back on two different MIDI channels (with two correspondingly different sounds) and performing different but related volume control or filter control information on them.

Firstly, record a repeating-type acidy riff or arpeggio on MIDI channel 1. Probably the best idea here is to record one bar and then repeat it using the edit window. To do this, SELECT all the notes (after quantisation) and COPY them three or even seven times. This means you have a sequence that is four or eight bars long, and repeating the same riff over and over. Use a patch that is harmonically rich, such as a sawtooth or string sound, and make sure all the notes have a good attack with a fairly short duration. Exit, store the sequence and make a copy of it.

Next, edit the copy of your original sequence, and select all the notes (Amiga-A). You may have noticed before a 4x4 box with the numbers 1 to 16 in it. This is the MIDI channel change gadget. Click on the "2" in this box to change all of the notes in this copy sequence to play on channel 2.

Now make all the notes in this sequence slightly shorter than the original. With all the notes selected, hold down the shift key, and press the left cursor key to shorten the notes. You may have to select a shorter minimum note length in the grid requester, to get any effect here, if your notes are already very short.

FADING IN AND OUT

Make sure that the patch on MIDI channel 2 is something square-wavish, with a lot less harmonic content than the sound on MIDI channel 1. Now for the cunning part. In the first of the two sequences, click on Mark from the options on the right hand side of the screen. Click at the very start of the sequence and drag the pointer so that exactly half of the notes are marked (shown by a big purple box).

Now select "Scale Velocity" from the modules menu. Click on "Marked events" to only effect the first half of the sequence. Select a starting velocity of 100% and an end velocity of 10% and click on OK. You will see that the volumes ramp down towards the halfway point of the sequence.

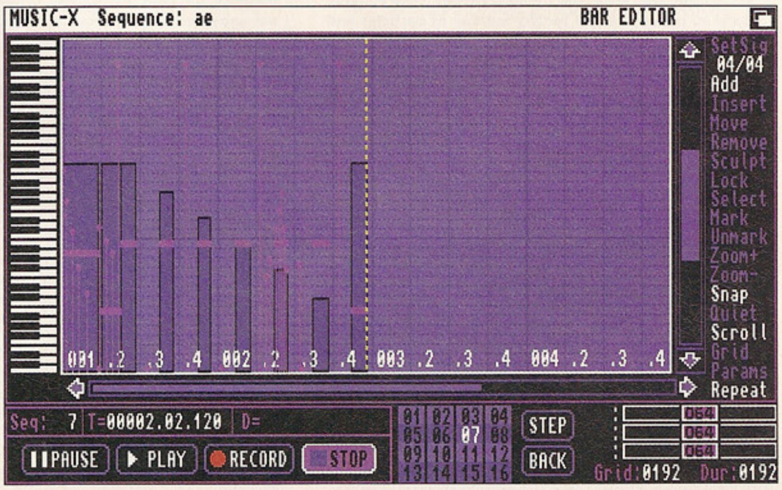
Now click on "Unmark" and then mark the second half of the sequence. Again select Scale Velocity, but this time scale it the other way around, from 10% to 100%. Thus the sequence will fade out towards the middle and fade back in at the end.

Now store these changes, and edit the second sequence (the one on the other MIDI channel) Do the same thing as for the first, only ramp the first half up, and the second half down. The sequence will fade in towards the middle and then fade back out again.

It's when you play back both sequences at the same time that the effect becomes apparent. Depending on your choice of patches on each MIDI channel, and on other less obvious things like the length of the notes and the tempo of the sequence, you will have some combination of a filter sweep type effect, and a sort of morphing between the two patches. Have fun with this, and you'll come up with some great effects – you might like to try something really weird like transposing one of the sequences, or combining this effect with MIDI echo or muting. If you have enough free MIDI channels, you might even like to try some sort of variation on this using three or more different sounds.

Most sound sources nowadays also support direct manipulation of their filters, using a specific MIDI controller number. The manual for your module or synth should tell you what this is. You can add these control changes in exactly the same way as for Pan and MIDI volume control information, except for obviously using the appropriate controller number. Combining these filter changes with volume changes can let you use your module to sound like a much more complicated and expensive piece of kit.

Next month will just about finish things up for *Music-X*, and we'll take a look at how to put the finishing touches to your songs.



This acid style riff features both filter changes and pan controller information. This gives a relatively simple but interesting sound.

Real 3D 2

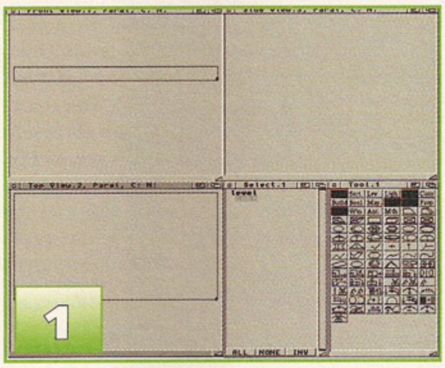
Graeme Sandiford discovers how to animate groups of objects in this month's *Real 3D 2* tutorial.

This month we are examining the program's particle system – an important tool for 3D animators. The system allows the easy creation and control of a large number of objects, or particles.

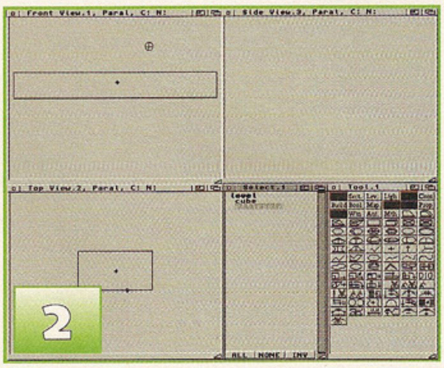
An illustration of particles in the real world could be dust. If you were to wave your hand through some dust particles in a beam of light they would react and change their positions and velocity. This would obviously be a nightmare to animate on an object-by-object basis. A particle system enables you to create as many particles as you want to fill a volume and then make them react to the force you apply.

As any object or group of objects can become a particle you can emulate a variety of real world phenomena. In our two examples we will be using spheres, however you can use any object with whatever properties with an amazing range of effects.

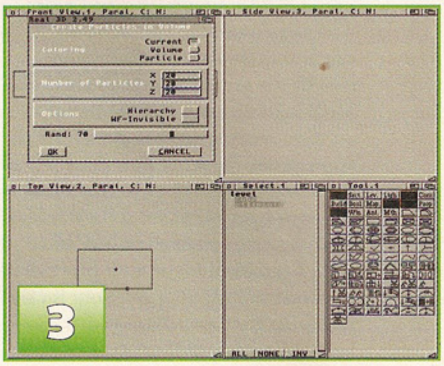
THE PARTICLE SYSTEM



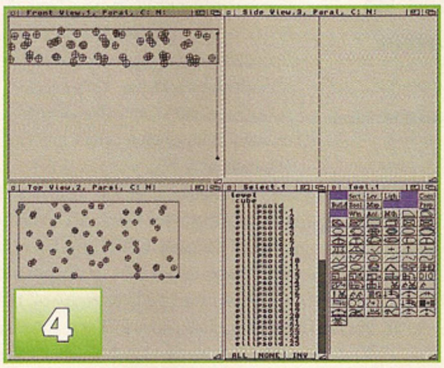
The simplest way to create a large number of particles is to use the Volume particle creation method. We'll need to make an object to serve as the volume, so create an oblong in the top-view with the Cube tool.



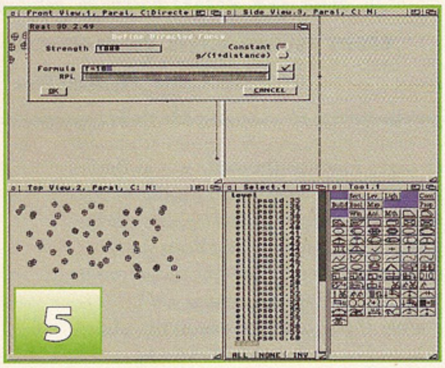
Now for the object that will serve as the template for our particles. We'll be using spheres to represent falling snowflakes, so draw a smallish sphere. If you're ambitious you can make a more detailed object.



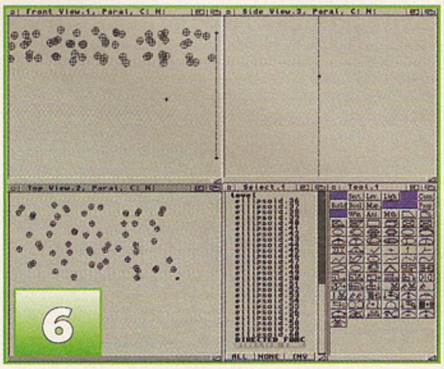
Next select the sphere and then the cube, the order is important, then go to the menu Create/Particle/Volume, enter 20 in each gadget for the number of particles and a Rand (randomness) value of about 70%.



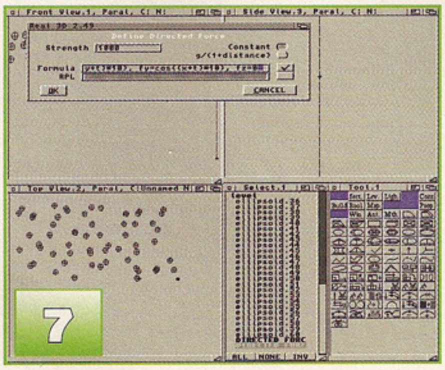
If you want a denser field of particles, and have the memory, increase the number of particles. To animate our snow we need a force field to make them fall so draw a downward pointing vertical axis.



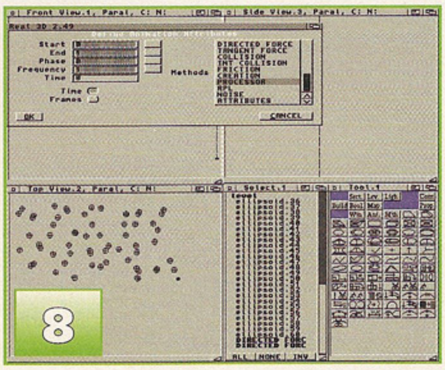
Delete the cube and original sphere, then reselect the axis and go to the menu Animate/Forces/Directed, activate the Formula gadget and enter this formula f=10 – make sure constant is selected.



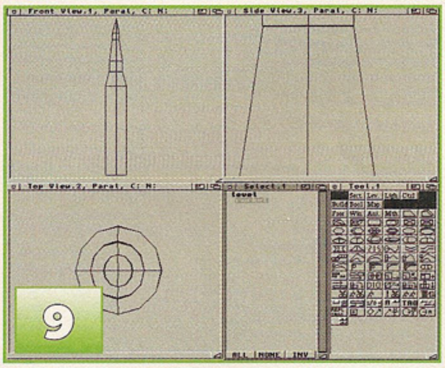
This will give us a constant downward force that affects all objects equally regardless of their position – gravity. However snow rarely falls straight down so let's add some turbulence. First duplicate our directed force.



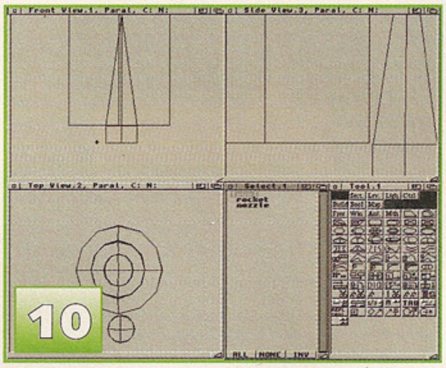
Next select the duplicate directed force and edit its formula by selecting the menu Animate/Edit. Change the formula f=10 to f=10, fx=sin((y+t)*10), fy=cos((x+t)*10), fz=0. This waves the x and y axis.



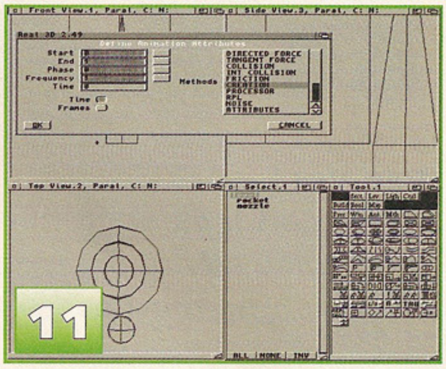
Next slap in a Processor to implement the motions (use the menu Create/Structure/method and processor the list), open the animation window (<right-Amiga><a>), set the res to 100, time to 10 secs and play forwards.



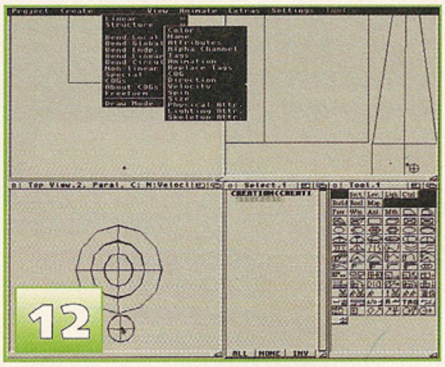
For our second example build the basis of a rocket by using either the Lathe tool or several cylinders and cut-cones under the same level. When you've finished rename the level rocket.



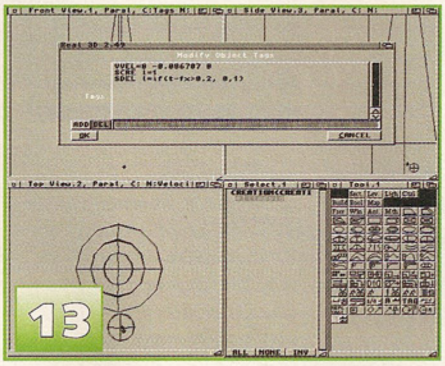
Next we'll create some nozzles for our engine. Simply create a cone with a cylinder underneath and place them under level called nozzle or something similar. However don't duplicate it just yet.



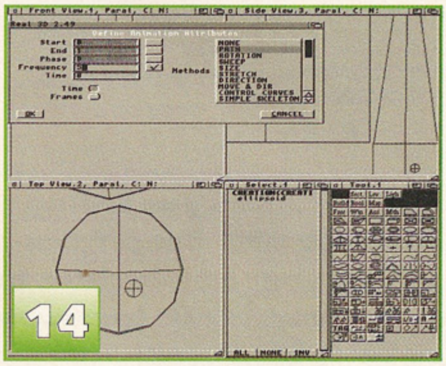
Go to the menu Create/Structure/Method and choose Creation from the list. This method will create copies of sample objects over time. Enter the Creation Method level and create a sphere or other simple object.



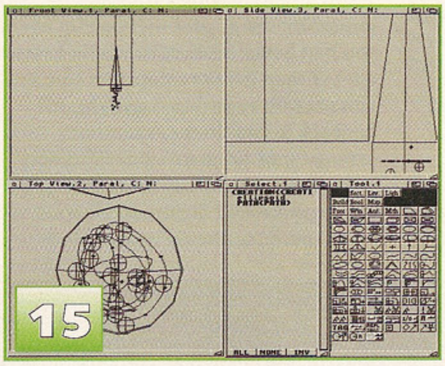
Select the object, go to the menu Modify/Properties/Velocity and draw a downward vertical line. All of the properties will be inherited so if you were going to render this scene, now would be the time to change its attributes.



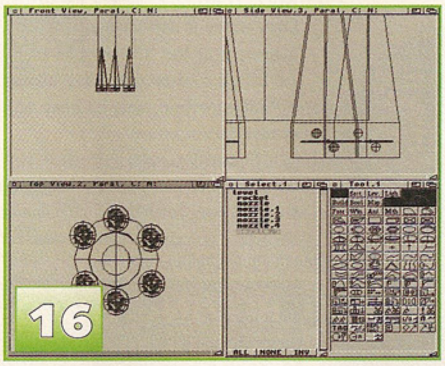
With the sphere still selected, select the menu Modify/Properties/Tags. Add a new tag as follows: SCREI=1. This tells *Real 3D* to create a copy every frame. Enter a second tag for deletion: SDEL I=if(t-fx>0.2, 1,0).



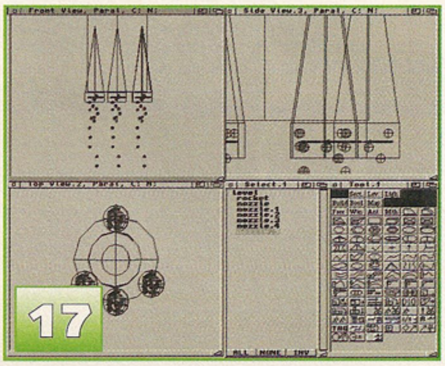
The second tag tells *Real 3D* to delete copies older than 0.2 secs. Again with the sphere selected, create a Path method, choose the same values as in the picture and then draw an erratic closed curve within the nozzle.



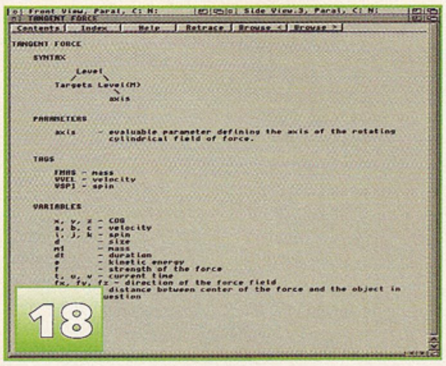
Add a Processor at the top level. Open the anim window, enter a res of 100, 4 seconds and play. Press <right-Amiga><u> when it's finished. If you want more particles, try duplicating the sphere and moving the copy.



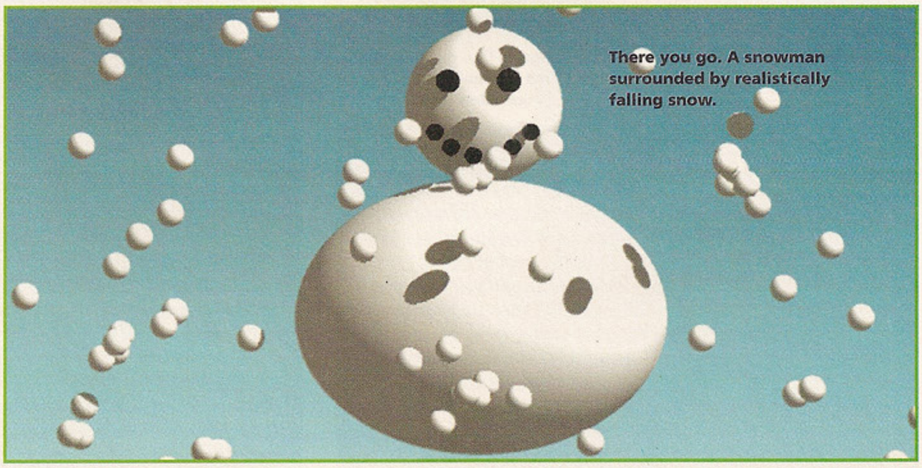
Undo the animation. Select the Creation and Processor methods and paste them under the Nozzle level. Go back to the root and duplicate the nozzle as many times as you want engines. Place them around the fuselage.



When you animate your rocket and have only used a few particles they may appear obviously identical. To remedy this, simply create more sample particles or move them around randomly and re-animate them.



Unfortunately this is a very complicated area and can't be fully covered in one sitting. If you want to find out more press the Help key and have a look at some of the other forces, methods and their variables.



There you go. A snowman surrounded by realistically falling snow.

It's Bath Time

Ben Vost concludes his seven-part look at multimedia with some advice on adding the finishing touches.

From following the various stages of this tutorial you should at least have an inkling of the amount of work required to put a CD together (or even just a Zip disk). If you haven't been put off by the cost in time and pounds sterling, then it just remains for me to wish you the best of luck and to give you some final tips.

CONTENTS

"...storyboarding how your user will jump from one place in your production to another can be an invaluable aid..."



A high quality SLR camera like the new Nikon Pronea 600i will help to keep your production looking great.

Firstly, when working on your masterpiece, whether it be about Star Trek, the Second World War or The Prodigy, make sure you have a definite schedule to your work. Storyboarding is often considered to only be of use in making films or TV movies, but storyboarding how your user will jump from one place in your production to another can be an invaluable aid to visualising how the program should work. It will also save a lot of time later since it will stop you from attempting the impossible and only realising it once you have already put 50Mb together, only to have to do it all over again.

Secondly, set a schedule for your work on the project. Be aware that the production could well run into several month's worth of hard graft and plan accordingly. Make sure that you contact any copyright holders whose copyright you may be infringing (particularly in the case of the Star Trek and Prodigy examples) before you start work on your production, especially if you intend letting more than your immediate family and friends see your masterpiece.

NO ROOM FOR AIR

If you intend making a commercial enterprise out of your multimedia, then you had better be airtight legally. Leave a lot of time for any companies you contact with regard to copyright, to get back to you. In the meantime, arrange your program's interface, sort out the text you will use, take the photographs and digitise your own sound samples. Even if you are only

IT'S A STEAL!

Out and out copying is obviously a "bad thing"™ but taking inspiration from how other people put their work together is always a good idea. Unless you have had specific training in Human Interface Design, it's always worth having a look at how other people design their user interfaces – you can always improve on what someone else has done. One of the biggest failings with user interfaces on the Amiga is the concentration on using the mouse. While it is a very useful input device, there is no need to deal with it exclusively. Make sure you add keyboard control to your project and your users will love you for it.

HITTING GOLD

Making a CD of your production might be the answer if you have a lot of data, but beware – making a CD is a lot more involved than any other method of distribution. For a start you will need to have two 650Mb+ partitions for your data. Why two? Well, you will need to put the ISO image of your CD somewhere. The ISO image is a file of your CD, a bit like a big archive or a file disk if you are familiar with PC or Mac emulators, and it is your first step towards what the CD manufacturers like SonoPress and Ablex use to make your CD.

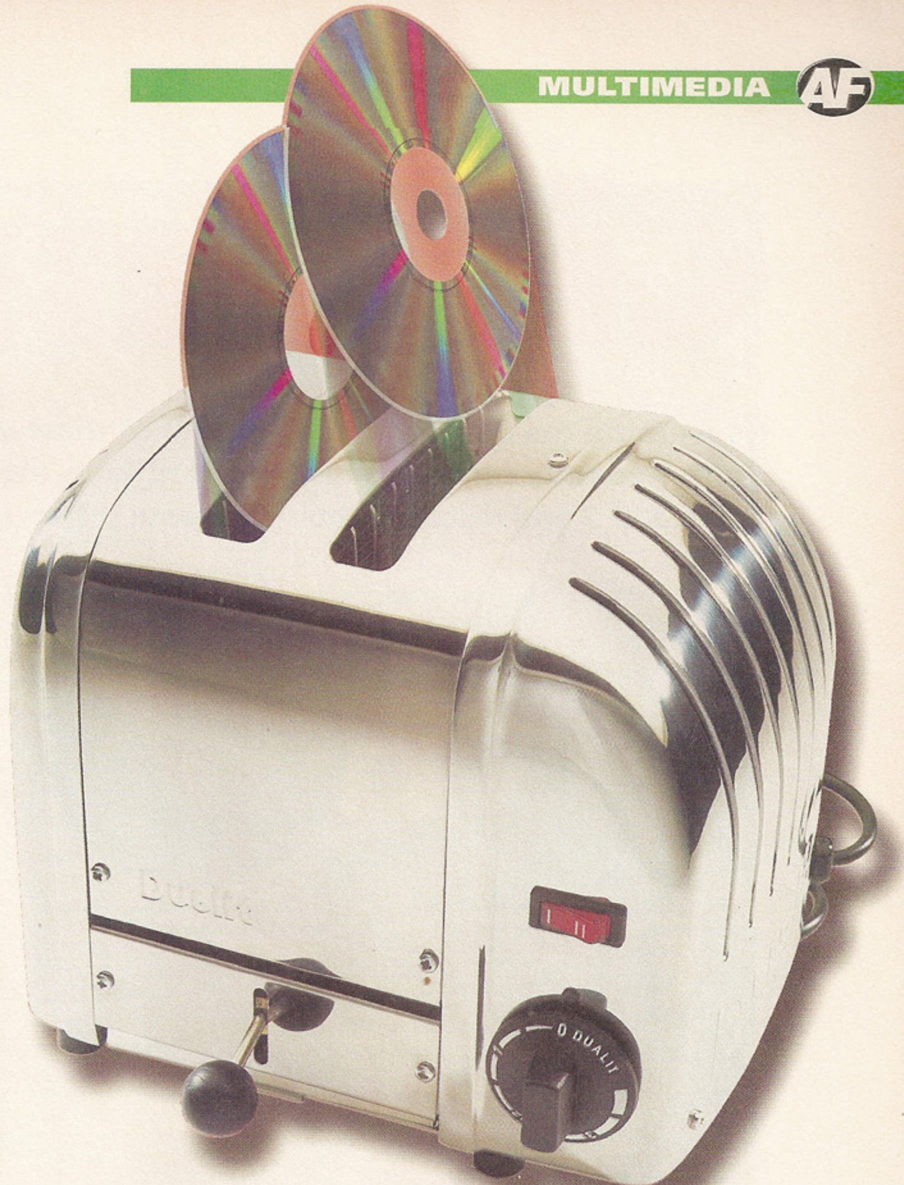
The next step is to cut a gold CD. Make sure you've thoroughly tested your production before you start cutting CDs because they are quite expensive at between £5 and £10 a time, depending on how many you buy in one go. Once you've cut a gold disc, you can then send it to the pressers to make into a full-on proper silvery CD.

What if you don't have a CD-ROM burner? Well, you can ask people like Epic or EMC if they would be willing to cut a gold disc for you, but be warned that it is likely to cost nearly as much as buying a CD-ROM writer for yourself since the company you deal with will need to have your hard drive off you to build their ISO image before they can cut a gold disc. If they don't have an IDE-based Amiga, or you want to supply the data on a Jaz drive or something, you could run into further problems.

Once you have your gold disc, it is a good idea to check it through for any possible errors because this is your last stop before getting a quantity of CDs manufactured. If you are aiming for CD^{32} compatibility, make sure the disc boots on a CD^{32} and also try it on a variety of Amigas, all running different CD file systems including Commodore's own, just to make sure.

DISTRIBUTING YOUR MASTERWORK

If your production isn't CD-sized, you have several options when it comes to distribution. Probably the easiest way to reach a large number of people would be to give us the project to put on our CD, but you can also give it to PD libraries. There are already several examples of such productions in the Public Domain so you can take a look at them and see where you can improve matters for your program. If you decide to distribute your project yourself, on a commercial basis, then it is a good idea to send out a press release of your program to all the Amiga magazines and follow it up with a reviewer's copy which has a contact number that the reviewer can ring if they find any problems.





Smaller productions are what the Zip and EZ drive were made for, especially if you want to send them in to us.

making a smallish project, PhotoCD development takes a week, so it might become a very important factor.

If you are going to work as part of a team, communication becomes all important. Designate a team leader who is responsible for coordination between the graphics people, the sound people and the programmers. Even if that means there is only four of you, it is a good idea to have someone who knows what's going on everywhere in the production team. A spreadsheet program is a handy production tool for creating a progress sheet that lets you know whereabouts you are in your schedule.If you are going to be recording video footage for incorporation in your production, do pay attention to things like the quality of the light and background noise. Oversights like that can spoil your shot.



An S-VHS or Hi8 video camera will give you better quality footage for video capture, but lighting and sound quality are more important if your final animation is only going to be about 160x120.

SOUNDS GOOD

In my experience it is definitely worthwhile investing some cash in an external microphone for your video camera rather than relying on the one that's built-in. A good Sony microphone should only cost you about £60 and will be useful in many more situations than just this project. Taking photos is another topic that requires some expertise. The rest of your production might look gorgeous, but if you've only taken photos with your mum's ancient 110 camera, you may well spoil the whole thing for a hap'orth of SLR, to coin a phrase.

Likewise, recording your sound is best done with high quality tape and a decent microphone. Sampling is down to your machine's power (and playback, that of the target machine), but even low quality samples will be made worse by a crap source. So that's it. All that remains to be said is that we wish you the best of luck with your new project and we look forward to publishing them on future *Amiga Format* CDs.

JUST ONE LAST THING

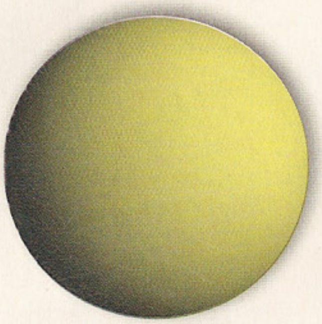
A topic like this is hard to cover in sufficient depth in just two pages a month.

I am very well aware that this tutorial hasn't gone into great depth explaining how to achieve some of the effects using a particular package for the same reason. If, of course, there is sufficient demand from you, loyal reader, for a course explaining how best to use Scala MM400 or ImageVision, then we will certainly consider doing one.

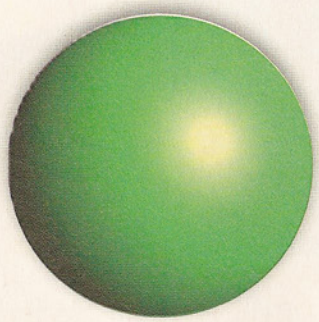
All the same, I hope you have enjoyed our stroll through Multimedia lane and I hope I haven't put you off with the thought of all the work you'll need to do. Make sure you send in any of your efforts, we'll be keeping an eye out for them and putting them onto our excellent *Amiga Format* CD for others to see.

Cinema4D 2

Never mind the quality, feel the width of these virtual textures! John Kennedy continues his look at HiSoft's awesome *Cinema4D 2* and discovers how to create different materials.



This the default appearance of a sphere, smooth and featureless.



This sphere's material has only its physical attributes altered.



Finally, the sphere is given a relief map to make it rougher.



Now we've altered the material to include a texture

CONTENTS

When you first create an object in *Cinema4D*, it's given a bland, white appearance by default. Obviously you will need to alter this finish if you want to make realistic renders, and you can achieve this by creating different "materials".

This allows you to select which material you wish each particular object to use: when you render in Scanline or Raytrace mode, you'll see the difference at once.

There are three ways of altering the appearance of an object:

1 **You can adjust the object's physical attributes.** These include colour, transparency, reflectivity and luminance. This is how you would make materials used by objects such as a hard, shiny object like a snooker ball, or a clear block of glass like a prism.

2 **You can map a texture to the object.** For example, you can create a chequered floor by applying a tiling pattern, or create a picture in a frame by applying a scanned photograph as a texture. These textures are simply ordinary two-dimensional images such as those created by any Amiga art program. Textures can be applied with each physical attribute: for example, a colour texture is like a decal. A transparency texture like a colour side.

3 **You can create a "relief map".** Again, this is an ordinary "flat" image, but this time the intensity of the image is used to create bumps in the object. This is a great way to add realism: for example, adding craters to a planet, or dimples to an orange.

There are three menu options (which can be found under the Edit menu) which you'll need to use in order to look after materials. These are:

ESSENTIAL INFORMATION

PHYSICAL ATTRIBUTES

Each attribute can be adjusted separately, but it is also possible to apply a texture to an image...

■ Colour – Adjusts the colour and also the image (if any) which forms the texture which can be wrapped around the object.

■ Transparency – Controls how much light the object will let pass through it. The three colour sliders allow you to define the transparency for each colour. A value of 0% is opaque, 100% fully transparent. You can also apply a texture, which will act like a colour slide.

■ Reflectivity – Determines how much light is reflected, again, in terms of the Red, Green and Blue components. Applying chequered texture map would produce mirrored squares over an object.

■ Highlight – When an object has a light shone onto it, there will be a "hotspot" of light. This setting lets you select that colour. It's used in conjunction with the percentage setting of "Shine", which controls the size of the hotspot.

Both are essential to making the object look like a particular substance: metal, paper, water and so on.

■ Luminance – A luminous object will look as though it has no shading on it, and will appear flat. It's useful for creating neon signs, or windows on spaceships.

■ Relief – A texture applied under the relief setting will cause the surface to appear raised by an amount depending on the degree of white in the image. This texture is also sometimes called a "bump map"

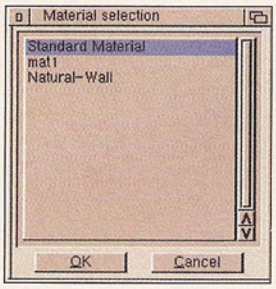
■ Fog – Causes an object to appear "foggy" or semi-transparent and gaseous.

■ Fresnel – Causes viewing angles not to affect the transparency or reflectivity, required for some materials.

■ Refraction – How much light is bent travelling through a transparent material. Air is 1, Water is 1.333 and Glass varies from 1.45 to 1.6. Diamond is 2.419.

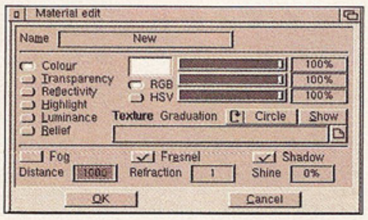
■ Shadow – This determines if an object can have shadows cast on it. For example, if you were to create a backdrop from a plane, you might not want shadows cast on to the image to spoil the illusion.

MATERIAL SELECTION (SHORTCUT J)



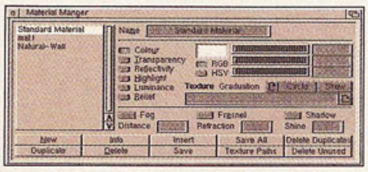
This brings up a requestor allowing you to choose the material to assign to the current object. When you first start, there will only be the "Standard material". When you start to create more, or load them from disk, this is where you can select them.

MATERIAL EDIT (SHORTCUT O)



When you select this menu option and the object is still the default, "Standard material" you can either choose to create a new material from scratch, or select one which you want to edit. If the object already has a material assigned, then you'll be allowed to edit it from this option.

MATERIAL MANAGER (SHORTCUT T)

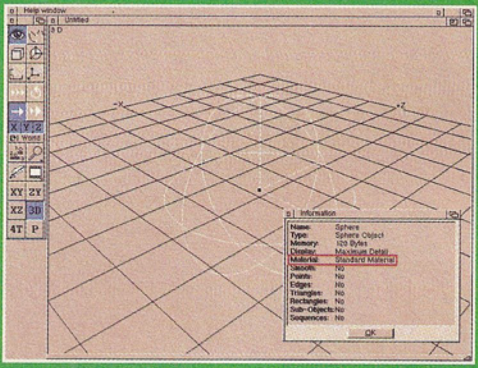


This brings up a large requestor from where you can load existing materials from disk, edit them, save them and generally fine tune them. As it incorporates the "Material Edit" window, you can also create new materials here.

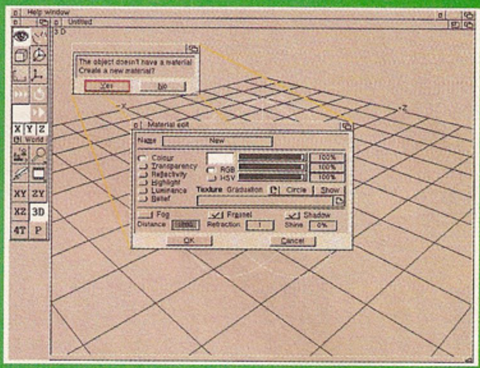
You'll soon build up a library of materials which can be applied to your objects. Remember that *Cinema4D* came with plenty of pre-defined materials, so use the Material Manager to INSERT them into the list, and then apply them to your objects.

One final point for you to remember: some of the physical attributes (namely transparency and reflectivity) will only appear when the object is rendered using a full Raytrace rather than in Scanline mode.

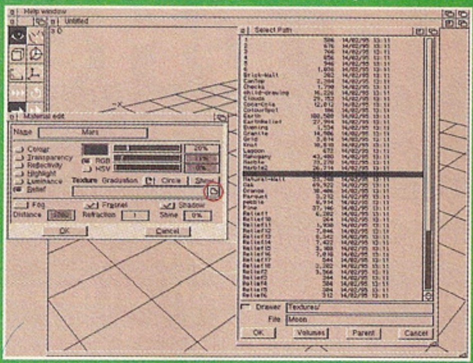
CREATING AND APPLYING TEXTURES



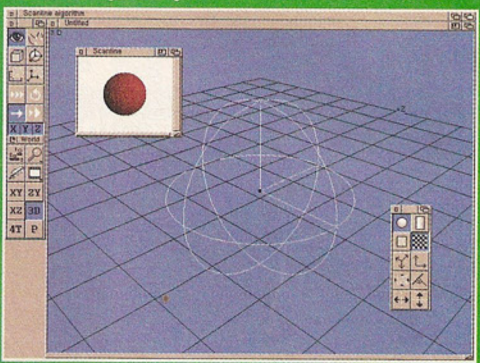
Start with a new project and create a sphere object. To begin with, the sphere will be made from the standard material, which is white and featureless. You can check this by pressing F to bring up the Facts requestor.



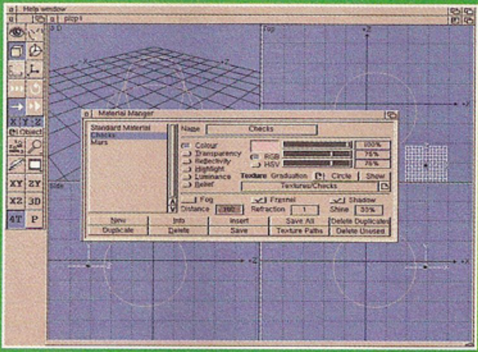
Now you can create a new material and apply it to the object. Select "Material Edit", and answer "Yes". You'll see the Material window appear, and it will automatically name your material "New".



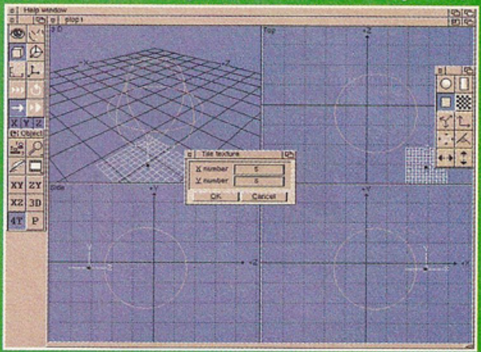
We're going to create a "Mars" material, so select colour and adjust the sliders to make a dull red colour. Next click on "Relief" and then click on the folder next to the filename area to bring up the file requestor. Select "Moon".



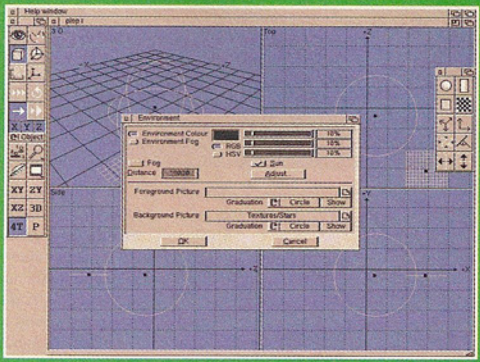
If you now go to the Window Menu, and select "Texture Bar" (or press Amiga-T) you'll see a new window appear. The Spherical Wrap icon and the Tile Texture should be selected. We'll now use this to create a chequered floor. (There are lots orbiting Mars – it's called the Vinyl Belt!)



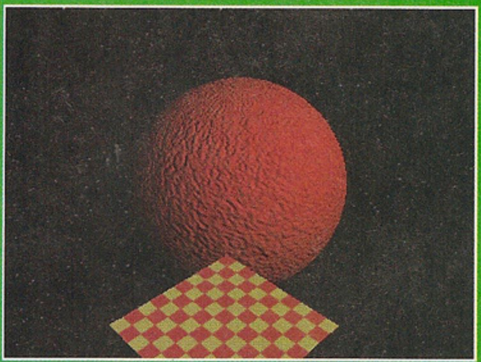
Create a Plane, and position it away from the Planet slightly. Use Material Manager to load the material (click on Insert) called "Checks". When you close the window, you'll still need to bring up "Material Selection" to assign the material to the floor.



Now click with the right mouse button on the Tile Texture button in the Texture toolbar. This controls how many times the texture is repeated over the surface of the object. The default is once in both the X and Y directions. Change this to five times.



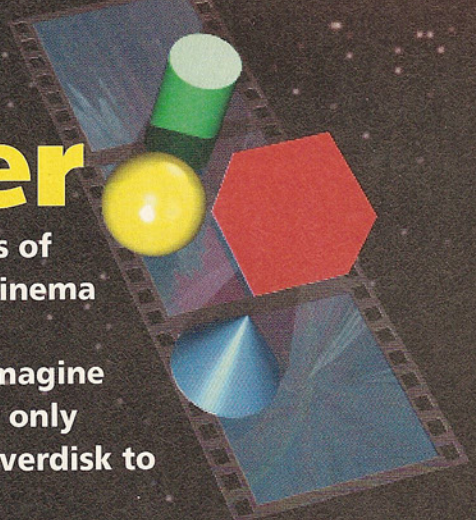
Before the final render, go to the Environment menu item in the Object menu. In the Background Picture area click on the folder icon and select "Stars" from the list of files. From the Object/Special Object menu select "Sun" to provide some illumination.



Now you can render the scene, preferably in Scanline or Raytrace mode. It's pretty weird I'm sure you'll agree, but if you were to render the same scene without any textures you would soon see the improvements.



Cinema 4D Offer



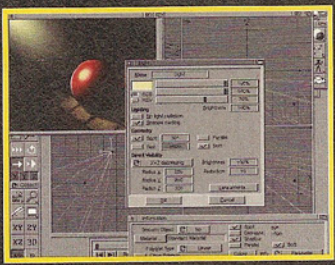
Got the Coverdisk – get the extensive user manual plus lots of example objects plus the optimised 68020/FPU version of Cinema 4D plus the complete version of Magic Link (allowing the import/export of many file formats including Lightwave, Imagine and Real 3D) plus full technical support from HiSoft, all for only £79.95. Alternatively you can upgrade directly from the Coverdisk to the brand new version 3 of Cinema 4D for just £149.95.

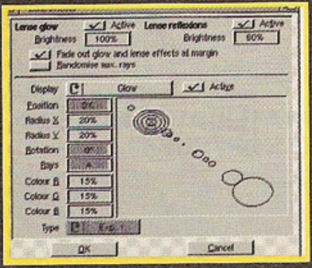
Extra new modules for Cinema 4D:

- CinemaWorld – allows you to create landscapes, mountains, oceans, reefs, worlds and sub-worlds, all within Cinema 4D. £39.95 disk.
- CinemaFont – use Type 1 fonts within your Cinema4D scenes, either as splines or as objects. Comes with the Bitstream 500-font CD-ROM (contains Type 1 and Truetype fonts) while stocks last. £39.95 disk.

VERSION 3 FEATURES:

- Faster render times and improved editing speed making it even easier to create your 3D masterpiece.
- The addition of Visible Light allows you to create fireballs, jet engines, real spotlights, floodlights and more.
- The new Lens Flares and Lens Glows are highly customisable (change their colour, reflectivity, position and radii; randomise and fade flares) and this lets you build some great effects such as highlights, glints, lasers and many other real-life camera lens characteristics.
- Soft light cones.
- Inverse Kinematics now supports joint limitation for the creation of real-world character animation.
- Enhanced raytrace dialogs with even more options.





To order, call free on **0500 223 660** armed with your credit card (Mastercard, Visa, Switch, Connect, American Express) quoting reference AFC431ZA. Or complete the order form and send a cheque or postal order to: **HiSoft Systems, The Old School, Greenfield, Bedford MK45 5DE**

All prices include UK VAT and postage within the UK; add £6 for guaranteed next day delivery. Offers only available to *Amiga Format* readers and are strictly limited – all offers will close 28 February 1997.

Free gift with all orders: Maxon Magic (worth £29.95) plus entry into a draw to win an SMD-100 VideoCD decoder with CD-ROM drive – perfect for home cinema!

Order Form

Please send me the following:

68020/FPU version with manual and objects	☐	£79.95
Version 3 Cinema 4D	☐	£149.95
CinemaWorld module	☐	£39.95
CinemaFont module	☐	£39.95
Guaranteed next day delivery	☐	£6
TOTAL		**£**

Personal Details

Mr/Ms. . . . Initials. . . . . Surname. . . . .

Address . . . .

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Daytime tel no. . . . .

Method of Payment:

1. ☐ **Cheque** (payable to HiSoft Systems Sterling cheques on a UK A/C Only)
2. ☐ **Postal Order**



MailBag

Send your letters to: Letters To The Editor • Amiga Format • 30 Monmouth Street • Bath • Avon • BA1 2BW or email to: amformat@futurenet.co.uk – putting 'Mailbag' in the subject line.

HAVE YOU FORGOTTEN ABOUT WB1.3?

I recently bought *AF93* and neither of the disks worked on my machine – an A500 with Workbench 1.3. I'm sorry to say that if *Amiga Action* was still selling I would buy that, as nearly all the Coverdisks worked. I know there is a demand for bigger, better and newer games but most of the people I know are in the same situation as me with an A500 or A600. So please put at least one Coverdisk on that works with older versions of the Amiga.

Daniel Smith
Darlington



Even the original A500 is not all that hard to upgrade to Workbench 2, and you really ought to do it if you want to get the most out of your machine.

We are of course aware that there are many users out there who have older machines, but the great majority of our readers do have at least WB2.04. I know not everybody can afford to upgrade, but we do like to encourage it for many reasons – mostly because you will be able to get more out of the magazine and more out of your Coverdisks.

The one thing that people tend to forget is that few people are producing 1.3 compatible software – and we can't really

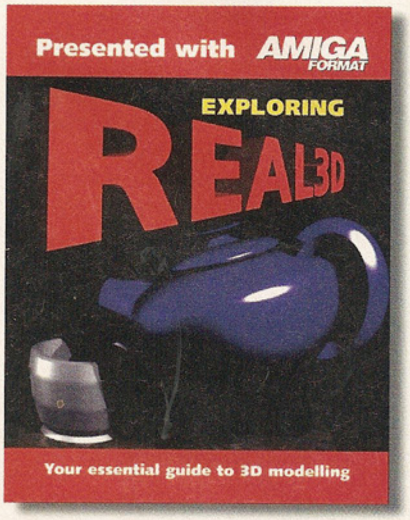
REAL PROBLEM

I have been following your tutorials for *Real 3D 1.0* and have hit a slight snag. When I attempt to load rendered images or animations into *DPaint III,* I keep getting the message: 'Sorry HAM files can't load'. I have experimented with various different screen formats both in the renderer and in *DPaint,* but with no success.

Nicholas Williams
Newport

Well, first, why on earth didn't you write to Workbench? That's where technical problems are supposed to go. I never had this problem when I was doing the book for Real 3D, *but I suspect it may be something to do with* DPaint. *Anyway, if you want to look at your pictures and anims, I would recommend* Viewtek. *If you get the CD version of the mag, you will find it in the C: directory; or you can get it from any good PD library, or from Aminet.*

You can also use Viewtek *to save your pictures in another format. Try typing Viewtek ? in a shell window to get the full list*



Try using *Viewtek* to display *Real 3D* anims.

CROSSED LINES

Thank you for publishing my letter in *AF94.* However, I was concerned with the reply: "Since it is a long time since new Amiga owners appeared on the scene in large numbers, we have to try and keep the magazine as relevant as possible to the people who read it. This may result in us assuming a little too much knowledge occasionally."

This statement seems to indicate that all new A1200s sold are assumed to have gone to old Amiga owners. I think that many of them would have gone to new owners who would be looking for advice from the support magazines, as



Our survey said: the mag's not too techie.

well as the dealers who are now, sadly, closed. Please do not ignore these people, as such short term vision was last seen in the British motorcycle

industry and look what happened to that. I wonder if you could give a thought to issuing historical Coverdisks as a special, or perhaps tutorials?

C R Spanton
Hastings

No, we don't assume that all people who buy an A1200 are upgrading from a previous machine. Not at all. But you have to consider how many people are buying A1200s at the moment – very few, mainly because they are difficult to obtain.

What we do know from our recent survey is that 23% of people say they sometimes get lost in the technical bits, while only 0.3% say they are baffled by most of the mag. On the other hand, 21.2% reckon that it's far too simplistic! 50% of our readers think the balance between easy to understand things and deeply techie things is just right. Obviously we'd love to improve on these figures, but I think that proves that we can't be going too far wrong.

And, of course, even if you are new to the Amiga, you can write in to Workbench and have your questions answered.

I don't really understand the reference to motorcycles – did Norton assume that all the people who bought A1200s were upgrading from earlier machines?

THE BUSINESS OF CDS

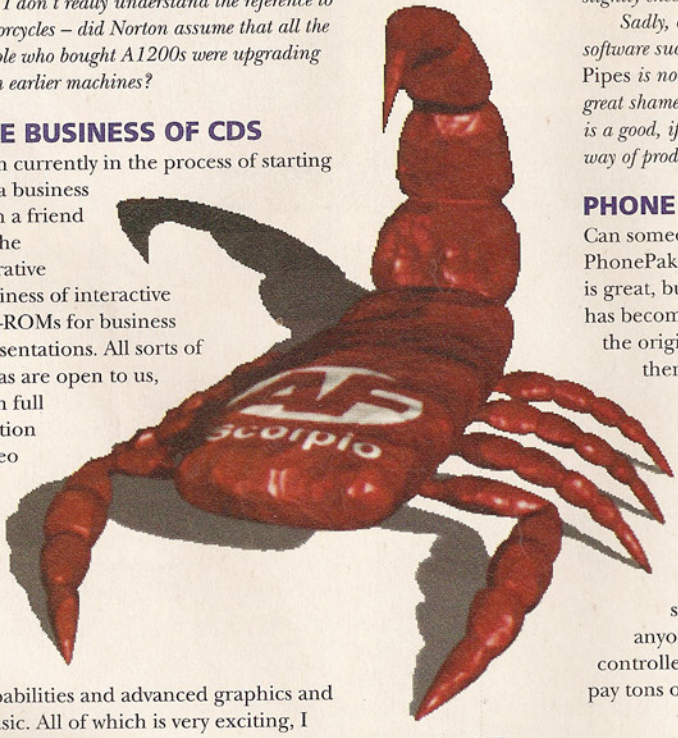
I am currently in the process of starting up a business with a friend in the lucrative business of interactive CD-ROMs for business presentations. All sorts of areas are open to us, with full motion video capabilities and advanced graphics and music. All of which is very exciting, I think you'll agree.

However, all this is at present PC-based work – the program writer uses this format, as do the majority of customers. I am even using the updated Amiga package *Caligari* (now renamed *TrueSpace2*) – and very good it is too, on the PC. I do, however, write all my music on my Amiga A1200 with a new CD drive and soon to be purchased 1200xl accelerator.

What are the capabilities of the Amiga in these areas at present – and in the hazy future, should all go well with Quickpak? I realise that this is quite a question, but being a new user I am very aware of the faster and cheaper (apparently) area of the IBM PC as far as expansion into the professional world of graphics and music is concerned. I currently run a 100MHz 486 machine and would expect to upgrade this soon.

Can you convince me to choose Amigas over PCs, with the intention of ultimately transferring information over to a PC; or should I ditch the A1200 as far as 16-bit sampling and fast 3D graphics are concerned? I will always use the machine since it already seems like an old friend.

Dan Wright
Tunbridge Wells



Fast 3D modelling on the Amiga, as compared with a PC? A doddle, mate.

Well, that is really a question that would take several issues of the magazine to answer. What can the Amiga do? Certainly there are plenty of good 3D modelling packages available for the Amiga, including the rather excellent Lightwave.

Also, I think you are labouring under the misapprehension that everything is cheaper on the PC. That certainly isn't the case with software, or with genlocking equipment. Sure, graphics cards do tend to be slightly cheaper on the PC, but not genlocks.

Sadly, on the music front, excellent software such as Music-X *and* Bars & Pipes *is no longer in development. This is a great shame, but* OctaMED Soundstudio *is a good, if slightly more machine-oriented, way of producing music.*

PHONE HELP

Can someone help me??? I have a GVP PhonePak VFX card for an A2000. This is great, but the problem is the software has become corrupt and I cannot find the original disks. If someone out there has one of these cards could they contact me? The software is exclusive to the card; you cannot use the software on its own. I did try to contact GVP, but I understand that they have gone out of business. What a waste of a good card! Can someone help please!!! Also if anyone out there has a CP290x10 controller they wish to sell, then I'll pay tons of money for it.

Clive Castle
32 Perry House
Perry Close
Rainham
Essex RM13 8QT
_(01708) 550075_

I am sure, even though these cards were never officially on sale in the UK, that someone, somewhere, will be able to help you…

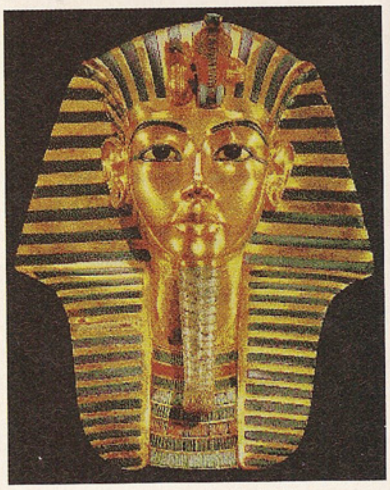
E-LITISM

I have installed *Run Bar*, an excellent utility from an *AF* CD-ROM, on my Workbench and would like to obtain the registered version. Unfortunately I am not yet the owner of a modem and the author insists the full registered version is only available via email. It seems a great shame that the author may be missing out on registration fees because of his inability to accept that there are people who aren't yet online.

Mr D Johnston
Blackburn

It does seem rather foolish on the author's part – perhaps it was just a mistake. Or perhaps the postal system in his country is unreliable. Or perhaps he is trying to keep costs down. At the end of the day, it is really his choice. All we can do is try to convince him that he is missing out.

MAKE A BUNDLE



Once upon a time, King Tut in *DPaint II* was enough to sell the Amiga to the public.

After the unpleasantness concerning Viscorp, it's fair to say the Amiga is in an even bigger pickle. The A1200 isn't getting any younger and a lot of people are jumping ship to the PC. Now, if a company buys up the Amiga, it will have to do something special to sell Amigas to a sceptical public.

First, something with a little more grunt has to become the base model and some decent software can't hurt. Everybody knows the Amiga is the best computer for those with a creative mind and a small budget. So logically Amigas should be packaged with the most popular and user-friendly creative software: *Blitz Basic 2.1, Personal Paint, OctaMED* and a decent sampler and possibly *Lightwave 4*. We wouldn't have to worry about a lack of talent in the Amiga scene, as every Amiga sold would mean a potential Andy Davidson, Eric Schwarz or Richard Joseph.

One other thing: how do you send output to the printer in *Blitz Basic*?

Paul Leins
Australia

Obviously bundles are a very important marketing question. Does anyone have any alternative suggestions for software that should be bundled with a new Amiga?

A QUESTION OF HISTORY

I'm currently studying computing for my highers in my 6th year and have to

do an investigation. I have chosen to compile a report comparing the Amiga and Apple platforms. My problem is that I have only used the A4000, A2000, A1200 and A500. I've never had the chance to take benchmark tests and I have no information on the mother boards; nor do I have a proper history of the machine.

I wondered if you would be kind enough to put this information onto your monthly CD as I'm sure that there are other people who would like to see it. Anything from advice to pictures and info would be appreciated. This is a good chance to promote the Amiga by showing just how well it compares to Apple platforms. I'm the only user in my class – the teacher and pupils think that the Amiga is a joke. I would like to prove them wrong.

Roderick Augusto
Glasgow

Well, you have experienced most of the important Amiga models, there. The things to harp on about really are the fact that Apple have seen fit to copy just about everything ever introduced to Workbench, from Appicons to ARexx. Also, on the Macintosh we use in the office, the system software takes up slightly over 6Mb of memory – before you have loaded anything! Not only does that seem like a waste of space, but all that inefficient code must explain why, even though it has a PowerPC chip in it, it seems to take forever to do anything.

We will be starting a directory of SysSpeed *benchmarks on the web site, and probably on the CD too, so look out for that.*

As for a historical/ hardware guide – we may be able to do something about that. What do other readers think? It would be very interesting to do a global history, as things tend to have happened differently in different countries.

Letter of the Month

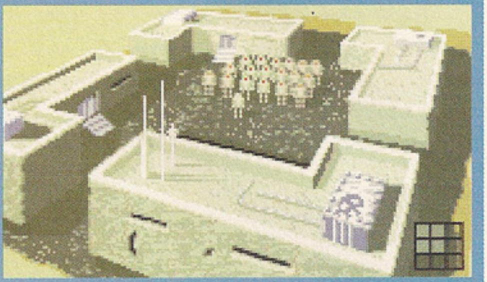
DUNE TO DEATH

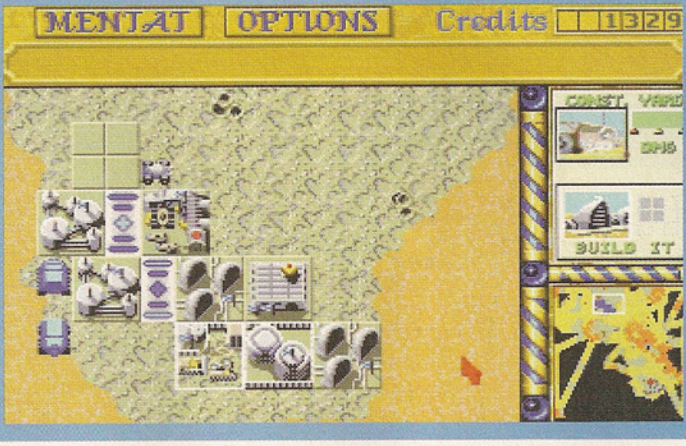
Unless my son is the last person ever to get *Dune 2*, someone out there might be helped by our recent experience. When you first load the game you are offered the option of creating a Save Game disk or playing the game. Since you cannot play the game without a Save Game disk, you soon find that you don't have a choice. Disk 1 has a formatting sequence within its code, but to proceed it is ESSENTIAL that Disk 1 is not write-protected. This is explained in a ReadMe on Disk 1, but if a new owner is not inclined to open up disks on the Workbench, they will not know. There is no obviously placed notice in the handbook which accompanies the game to alert you to this.

Also should you need Technical Support at Virgin Games, who are extremely helpful, bear in mind that the phone number in the manual is incorrect. It is (0171) 368 2255.

Stephen Chandler
Redruth

The Format Gold rated* Dune II *(AF68, 91%) was certainly a big seller, so some other people may have this problem. Thanks very much for the tip: you will be receiving a fabulous Amiga Format sweatshirt to show our gratitude. If anyone else has tips that can save other Amiga users a lot of trouble, please write to us.





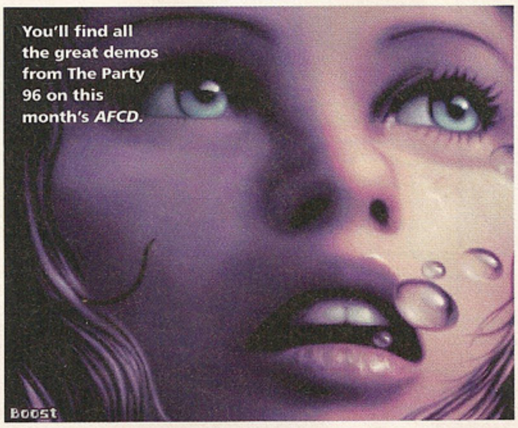
***Dune 2* (above and right) – the forerunner and inspiration for classics like *Command & Conquer* and *Warcraft* et al.**

SERBIAN PAL

Firstly I want to thank you for the best Amiga magazine in the world. These days in Belgrade there are many big computer magazine stores (mostly PC orientated), but only *Amiga User* arrives regularly each month. In the central store they may have only two or three copies of *Amiga Format* each month, can you believe it! So if I want a copy I must sign my name and telephone every 20 days, then when *AF* arrives I have to travel from my home in Valjevo to Belgrade to pick it up. Could you contact this book shop and make a deal?

I would also like to read about new underground groups and their demos, as some of the stuff they do is absolutely unbelievable. I'm also interested in writing to pen-pals all over the world. I have an A1200 (Blizzard 030/50 and 8Mb Fast) for music and live acting at techno parties across the country.

Nikola Tomic
Sindeliceva 11/8
14000 Valjevo
SERBIA



You'll find all the great demos from The Party 96 on this month's *AFCD*.

EMAIL

Although we are more than happy to accept letters via email, please read the following notes, which will not only make our lives easier, but also give your letter a better chance of getting a reply.

- **Always put the word "Mailbag" or "Letters" in the subject line. If you don't, the letter won't get read – it's as simple as that.**
- **Make sure your letter really is a letter!!! If you are writing in with a technical query, problems with software or buying advice, you should direct your mail to Workbench. Workbench queries will not be answered in the Letters pages, and if you misaddress them in this way, there will be a considerable delay before they get to the right place.**
- **Do not expect an immediate personal response. Some letters will get a direct response, but as we get a huge volume of mail, not everyone will.**
- **Do not send the same letter twice!!!! You would be surprised by how many people think they are more likely to get into print if they send the same letter several times. In fact, the reverse is the case.**
- **Please include your name and tell us if you would like your email address published.**

Address Email letters to:
amformat@futurenet.co.uk and put "Mailbag" in the subject line.

Well, I can't imagine why, if so many people out there want to buy the magazine, the shop only stocks a few copies. Unfortunately, distribution of the magazine outside of the UK is largely down to various distribution companies in those countries, and is not directly controlled by us. The way to ensure getting a timely copy of your magazine every month is to subscribe – and it would save you your travelling costs, too!

If you have a CD-ROM drive you can see a load of stuff from The Party 96 on AFCD12, and I'm completely sure that some of our readers who indulge in similar activities will get in touch…

YOU'VE BEEN MANGOED



Wanted: someone who is good at art to become a games designer in the Isle of Wight area.

We are a team of blokes who are starting to get serious about making games. We have a very decent programmer and a pretty good musician. All we need now is an excellent artist – someone who can use programs like *Imagine* and *Real 3D* to do rendered graphics.

If you think you're good enough, please, PLEASE contact us at: Team Mango, 17 Bank Gardens, Ryde, Isle Of Wight PO33 2SY, tel 01983 615 514. All letters will be answered. We're waiting for your reply!

Alvaro Thompson
Ryde

No, sorry, I don't think I'm available – so I won't be in touch. Two other points: first, this looks suspiciously like a free advertisement; and second – "Team Mango"?

HAPPY CUSTOMER

Anyone thinking of buying any Amiga kit should check Eyetech out first. They have been brilliant to me – even though their suppliers let them down, they got my modem and modem cable to me sooner than humanly possible. Thanks, Eyetech!

Mark Bollons
via email

Yes, indeed, well done to Eyetech, who we've been recieving a lot of praise about. Thanks for letting us know, Mark.

UNHAPPY CUSTOMER

I'm sorry this is negative, but I feel it must be said.

- PLEASE! Slap some newicons over those awful MWB monstrosities on you CDs. It wouldn't take much – there are squillions of the things on Aminet along with the addresses of loads of people who would be more than happy to draw you some.
- Your web site is very depressing. Most of the articles are out of date (those on Amiga net. especially). Wasn't the whole point of having a web site that it could be updated?
- Lighten up!
- Believe it or not we want to know all about you lot. Pix/vidz/samples of you and your office, please.
- Too many of your reviews generalise and don't really say much about the products. This is the same with show reports: if you go to the expense of sending someone to Cologne, get them to say what was there, not 'It was great, I enjoyed it'.

Mark Bollons

Okay, er, Mark… Oh, hello again. Right, let's take your gripes one by one.

- *You already have the option of running distateful, memory- and speed-wasting newicons. Why don't you try running the startup script on the CD?*
- *We are guilty, here, but now we have a direct link between our Amigas and the web server, so you can expect a whole new look and regular updates starting soon.*
- *Lighten up? I don't think so. I can hurry up, drink up, shrink up, shrivel up, meet up, heat up, have my feet up, get up, set up, let up – I can light up too. If you don't like it, you can go on your uppers. If that's no good you can go in a huff. If that's too soon, you can go in a minute and a huff… etc.*
- *We have had little films of us in the office and so on, but isn't it just a waste of disk space? If you really want to see more of me, you can catch me on Sky's 'Chips With Everything' at the end of March.*
- *Generally, we generalise, do we? Well, why don't you write a review, then, and send it in to our long term test so we can see how it should be done…*

MOANIE GROANIE

It must be great working for a company like Future Publishing, because when it becomes hard to write interesting and useful articles you just fill the pages with adverts for other publications owned by Future Publishing.

As for the CD's being like the second coming, as far as I'm concerned it's been a big flop. The rot started with AFCD1 and has not got any better. I have the Amiga Q drive and all the other CDs I have work fine with the Archos CD32 emulation, so I see no reason to change it so that *Amiga Format* CDs can work.

As for *CanDo*, well it will not do. I get a message telling me that I've run out of memory:

You ran out of memory. Error line first card Error 89 screen open error. Error occurred in the deck named Unnamed deck. At line one in the Perform/Script. You either ran out of graphic memory or general memory.

At the moment I have an accelerator card with 4Mb so there should be enough memory. I have now cancelled my order for the CD version of your magazine because of the problems with the CDs. By doing this I can decide what issues have something in them worth reading.

Mr S Longden
By Arbroath

When you say the Q drive, you mean the one being sold by Silica? We



Got problems using software on the CD? Here's some tips…

haven't actually ever had one of these devices to test our CD on, but since the disc is a standard ISO9660 disc, it should run fine on any system. I'm not sure from your letter whether you are saying that you can't read the disc, or that you can't get some of the programs to work.

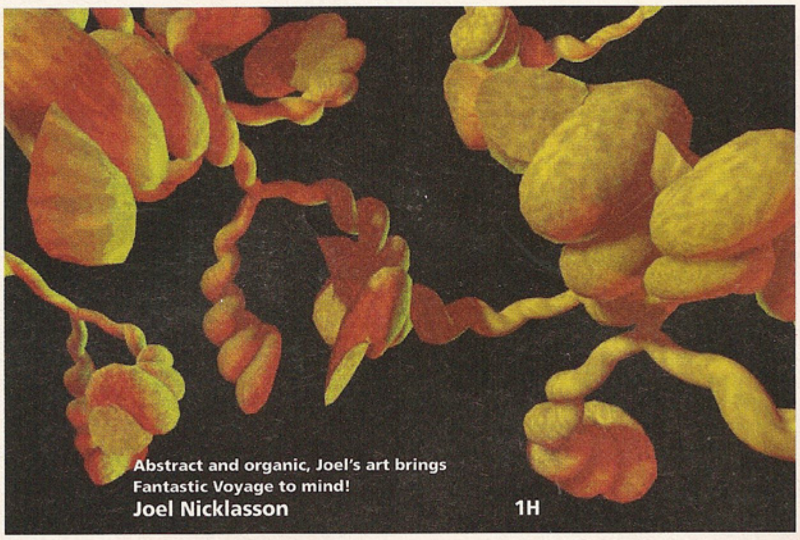
If it is the latter, here are a few suggestions which might help:

- *As far as possible, the software is compiled onto the CD in such a way that it should be possible to run it directly from the CD. However, because there are so many different CD file systems, versions of Workbench etc, you will almost always get better results by installing the software on your own hard drive.*
- *Try reading any documentation which comes with the software. If it says it needs WB3+, then it probably does…*
- *Try running a utility such as* SnoopDos *to find out why an error is occurring – usually this is to do with out of date libraries being installed on your Workbench partition.*

I would also be interested to hear from anyone else with this particular drive if they are having difficulties.

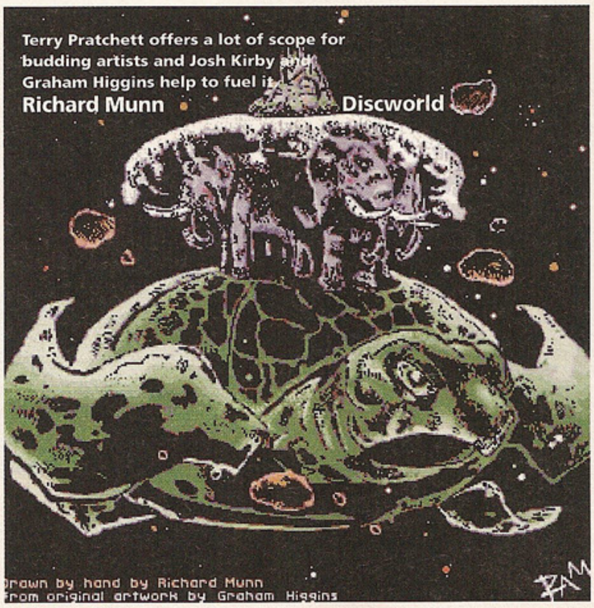
I am not quite sure what you mean by your opening comment. However, Amiga Format *has more pages of editorial (that is, reviews, features, tutorials and so on) than any other Amiga magazine, by a very long way. Adverts for other Future magazines are bought in the same way that all ad space is bought (except they pay slightly less). They are not used to "fill up" the magazine. Perhaps, before you start making comments like that in future, you might like to do some research, like counting the pages.*

The Gallery



Abstract and organic, Joel's art brings Fantastic Voyage to mind!
Joel Nicklasson **1H**

Don't forget to give your pictures a meaningful name in your readme!



Terry Pratchett offers a lot of scope for budding artists and Josh Kirby and Graham Higgins help to fuel it.
Richard Munn **Discworld**

ON THIS MONTH'S CD

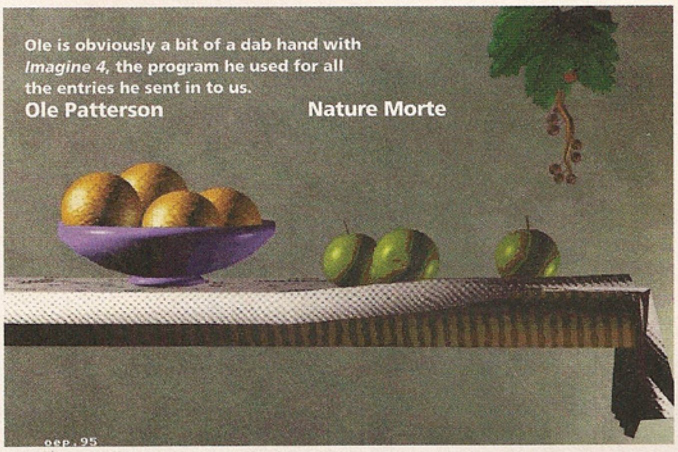


£50 winner

Andy's hand-drawn, scanned and retouched image is testament to his artists' skills and the power of the Amiga.
Andy Watkinson **Modern Titans**



Gorgeous hand-drawn scenes like this are fairly rare on the Amiga, but Don has provided us with quite a few on the CD.
Don Aiken **Claines Church**



Ole is obviously a bit of a dab hand with *Imagine 4*, the program he used for all the entries he sent in to us.
Ole Patterson **Nature Morte**

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Printer Ribbons

BLACK	1 off	2+	5+	10+
Amstrad DMP2000/3000	2·80	2·65	2·45	2·25
Amstrad DMP4000	3·66	3·51	3·31	3·11
Amstrad PCW8256/LQ3500 Fab	2·85	2·70	2·50	2·30
Amstrad PCW9512 M/Strike	2·60	2·45	2·25	2·05
Brother M1009/1024/1109/1209	3·90	3·75	3·55	3·35
Citizen 120D/LSP10/Swift 24/9	2·85	2·70	2·50	2·30
Commodore MPS1220/1230	4·50	4·35	4·15	3·95
Epson LQ100	4·10	3·95	3·75	3·55
Epson LQ200/400/500/800/850	3·45	3·30	3·10	2·90
Epson FX/MX/RX80/FX/LX800	2·90	2·75	2·55	2·35
Epson LX80/86/90	2·12	1·97	1·77	1·67
Mannesmann Tally 80/81	3·90	3·75	3·55	3·35
NEC Pinwriter P2200/P2+	3·03	2·88	2·68	2·48
Oki ML182/183/192/193/195	3·17	3·02	2·82	2·62
Panasonic KXP1123/1124/1140	3·46	3·31	3·11	2·91

BLACK	1 off	2+	5+	10+
Panasonic KXP1080/1180/90	2·89	2·74	2·54	2·34
Panasonic KXP2123/2124/2180	4·95	4·80	4·60	4·40
Seikosha SL90/92/95/96	5·70	5·55	5·35	5·15
Star LC10/20/100	2·29	2·14	1·94	1·84
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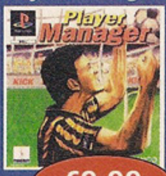
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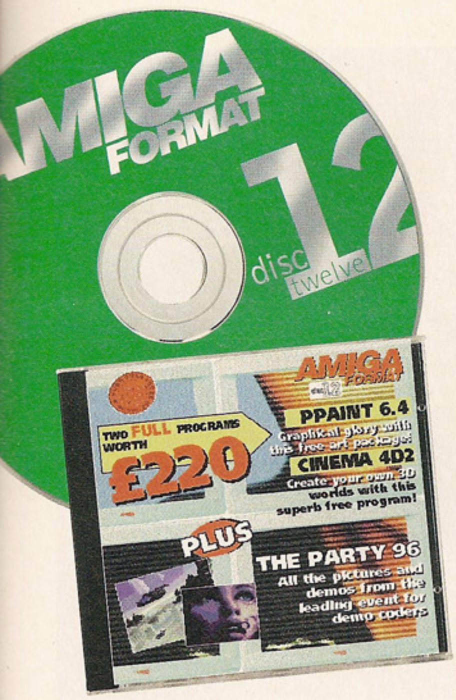
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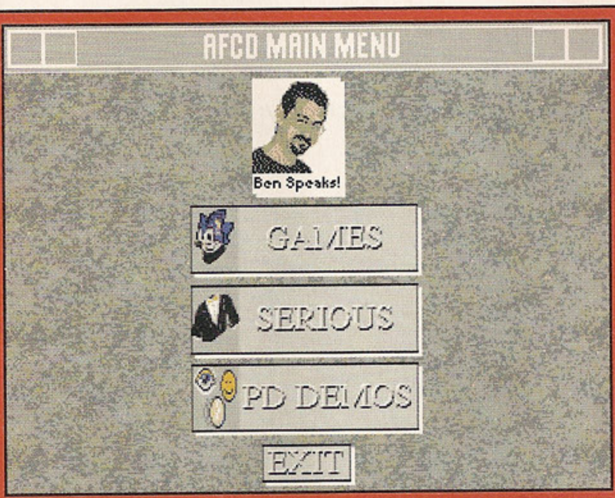


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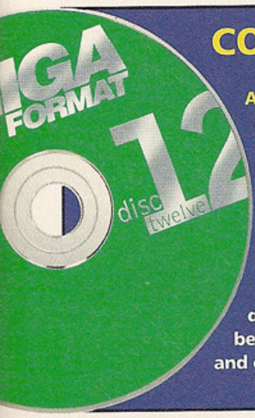
Huge! That's the word for our CD this month. I don't mean that it's eight foot square, of course, but that it has an enormous amount of great software on it. Some statistics for you Statto fans: *AFCD12* has more than 24,000 files in 3,092 directories and there's more than 617Mb used in total.

PRIZE WINNERS

This month, our reader contribution prize goes to Timm Rutland for his lovely *AFCD* menu system. The only thing I have to know, Timm, is how long it took you? The reason I ask is that our CD is produced on a two and a half to three week schedule with things being added right up to the last minute, so if your front end took more than, say, three hours to knock up, there probably wouldn't be enough time to sort it for each CD. Nice one, though!



COVERDISKS



AFCD12:-CoverDisks-/AF96b/

This drawer contains a DMS file of the second *Amiga Format* 96 Coverdisk. Double click the icon to extract it to df0:. We couldn't run it directly from the CD because it accesses df0: and only df0:.

MUI

Changes are developing apace in the MUI camp, so this month's CD actually has the very latest version (MUI 3.7) on it.

If you're still using an earlier version, it may well be worth your while installing the new version from the MUI_Install drawer in here.

LOOK_HERE_1ST!

Here's the first place you should look on the CD – why else would we give it the name we did? This is where you'll find the icons you can use to set up the CD and also our two main full software packages – *PPaint* and *Cinema4D*. In the AF_on_the_web drawer you'll find the latest Amiga browsers, including a version of *Voyager* that supports frames! All the browsers have been set up to read a local file containing the sites we've put on this month's CD.

Also in this drawer you'll find our CD survey that lets us know what you think of the CD so far. We've already had a lot of replies to this – thank you! – and for those interested, the MWB/NI conflict is running hot with about a 60:40 split in favour of MWB. We've also already incorporated some of your suggestions on the CD and we will be adding further ideas supplied by you, our readers, when we can or when it is appropriate.

Two files that everyone who has the CD should look at are the Reader Warrant and Submission Advice files. If you don't put a copy of the reader warrant in your *AF* Readme file, your work can't go on our CD. It's as simple as that. Make sure you use it: all it needs is a little copying and pasting.

READER STUFF

Another great month for your contributions, at over 138Mb, but it could have been nearer 200Mb if only some of the contributions we received contained *AF* Readme files with the reader warrant enclosed. All the same, we've got some cracking new software.

Cinema4D animations

AFCD12:-ReaderStuff-/Femi_Hasani/

Our main long-standing contributor Femi Hasani from Eslov in Sweden has been busy getting to grips with our giveaway of *Cinema4D*. This drawer contains a selection of the work he has done so far.

Space Farming

AFCD12:-ReaderStuff-/Knut_Olav_Lite/

Knut has remade the old classic *Oil Imperium* into a new Shareware game based on the same principles, but dealing with farming grain in outer space. This is a game that requires three players, all competing for valuable resources. Since Knut put spaces in his file names, the game probably won't work from the CD, but we have included the DMS archives for the original floppies so that you can still enjoy Knut's work.

Thought

AFCD12:-ReaderStuff-/Richard_Munn/Thought/

Richard Munn's superb little *Thought* program takes its cue from all those *Random Cookie* programs that show you a bad joke or a quote on startup. *Thought* takes a slightly different approach in that it doesn't use huge text files filled with cookies. Instead, it algorithmically generates its own sayings. Some are particularly odd, but it makes a nice change from light bulb jokes.

Icons and info

AFCD12:-ReaderStuff-/Martyn_Bampton/

Martyn, another regular contributor, has sent us some of his finely crafted icons based on the MWB standard. He also includes the words to the Worm Song (!?) and his advice on getting a CD-ROM drive.

➡

SCREENPLAY

Soliton
AFCD12:-ScreenPlay-/Shareware/Soliton/
Soliton is – yes, you guessed it – another Patience game. However, it is one of the nicest I've seen, suitable for any Amiga owner with enough colours. It uses MUI and there are already some new card sets on Aminet – you'll get them as we do.

Battleships
AFCD12:-ScreenPlay-/Shareware/BattleShips/
"You sunk my Battleship!" It was a cry that rattled around the Seventies like some weird mating ritual – and now you can relive those wonder years, except that it's livened up with a bit of naval war footage while you're taking your shots. The speeling's a bit off, but the game itself is top-notch.

Frontal Assault
AFCD12:-ScreenPlay-/Shareware/FrontalAssault/
One of the earliest games I can remember playing on computer was a game called *Ballistix* on an Acorn Atom, but even then the idea was old. This game can be played with up to seven players, any of which may be controlled by the computer – and if you've played *Worms*, then you'll know what to do. The special effects are varied and amusing and the game is very solidly constructed. Excellent fun.

Monopoly
AFCD12:-ScreenPlay-/Shareware/Monopoly/
It's a good job *Monopoly* is pretty much the same in any language, since this WB version is in German. Still, it doesn't make it much harder to play and it's interesting to see what the properties are named. For instance, the property that's called Mayfair in Britain and Fifth Avenue in the States is called Schloss Allee (Castle Street) in Germany. The game doesn't have any computer opponents, but you can have the computer 'roll' the dice for you and move your piece.

HD Installers
AFCD12:-ScreenPlay-/Utilities/SWOS_HDInstall/
AFCD12:-ScreenPlay-/Utilities/SpyVsSpy_HDInstall/
Just the two hard drive installers for your favourite games this month. The *SWOS* installer is designed to work with all versions from 1.0 all the way to 96/97 and the *Spy vs. Spy* one is designed to allow you to play this hoary old title from Workbench – there's even a quit function added.

IN_THE_MAG

Jason Jordache pics
AFCD12:-In_the_Mag-/Jason_Jordache/
Jason Jordache is an accomplished artist, as his articles in *AF* and the images here show. Take a look at his work and see what you think.



Graphics card comparison
AFCD12:-In_the_Mag-/GFX_Card/
In this drawer you'll find a program called *IntuiSpeed* which checks Intuition-based graphics performance. You can run it on your own machine and then compare your results with those in our review of the CyberVision64 and PicassoIV graphics cards.

Emulation
AFCD12:-In_the_Mag-/Emulation/
Owing to a cock-up last month, the Spectrum stuff we promised you in the mag wasn't on the disc. So this month we have a bumper selection that not only includes last month's files, but also this month's PC-related gubbins and all the newest emulators from Aminet.

DISC NOT WORKING?

If the CD is defective, please return it to the address below. Please make sure you have followed our installation procedures correctly to ensure that there is a physical problem. Please send the CD along with a description of the fault (not forgetting your name and address). A new working version should be returned to you within 28 days. The return address for faulty discs is: PC Wise Ltd, Dowlais Top Business Park, Dowlais, Merthyr Tydfil, Mid Glamorgan, South Wales C48 2YY.

A CD should only need replacing if the CD itself cannot be read. If, instead, you are experiencing problems with an individual demo or application, phone our technical support line. This is open between the hours of 2pm and 5pm every Tuesday.
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E-mail: amformat@futurenet.co.uk
(put "Coverdisk" in the subject line of your message to ensure it is processed swiftly).

Please note that the helpline staff provide assistance with technical problems directly related to our cover CD and cannot provide training on the software or hardware in general.

READER WARRANT

Every reader submission to the *AFCD* must have a reader warrant attached to the accompanying *AF*_Readme file. You can type it in off this page or take it from the various locations it is stored in on the CD (Look_here_1st!, ReaderStuff etc). A last reminder: this text must be in your *AF*_ReadMe, or your submission won't go on the CD – it's Future policy.

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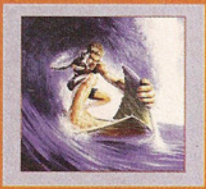
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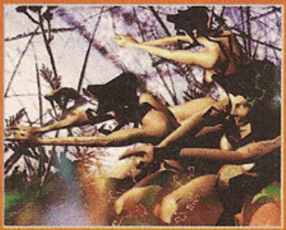
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PD SELECT

The Party '96
AFCD12:-PD_Select-/The_Party_96/
This drawer contains the results of days of feverish coding and painting at the Party '96 in Denmark. Over 2500 people showed up to strut their funky stuff and the organisers not only had enough power to supply all those computers, but also had an internet server and display screens in a huge hall which had dormitory rooms and canteens to cater for all the visitors.


SERIOUSLY_AMIGA

The Learning Curve

AFCD12:-Seriously_Amiga-/Commercial/The_Learning_Curve/

Get a taste for this educational extravaganza with our exclusive demo of Weird Science's *The Learning Curve*. The demo contains more than 48Mb of sample educational tools, from AmigaGuide documents to full-blown programs on a wide range of topics from computing to mythology.

MakeCD 2.0

AFCD12:-Seriously_Amiga-/COMMERCIAL/MakeCD_2.0/

The latest version of Angela Schmidt's excellent CD-burning software is on this month's CD. Improvements over the old version include:

- far more CD-R drives supported at top speed
- multi-volume CD-Rs (recording can start at any block)
- more flexible user interface, including timing for track writing etc.

There are far more improvements, but it has to be said – I'm not sure I actually understand them all!

RDB-Salv

AFCD12:-Seriously_Amiga-/Commercial/RDB-Salv/

This utility saved my life this month. This very text that you are reading, along with the whole *Cinema4D* directory, copy and pictures, were all on an external drive called Fireball when my machine went down on Saturday. When I got it started again, I was horrified to find that the Rigid Disk Block (RDB) for the Fireball had been trashed. *RDB-Salv* takes the horror out of the situation by restoring the drive's RDB and partitions, leaving you free to carry on. As you might have guessed, Angela Schmidt, the author of this and *MakeCD2.0* is now, officially, *Amiga Format*'s registered saint. We love her! OK, now you won't be able to do what I did and recover lost hard drives unless you register *RDB-Salv* with her – but, believe me, it will be worth every single penny for that first time when you lose your hard drive.

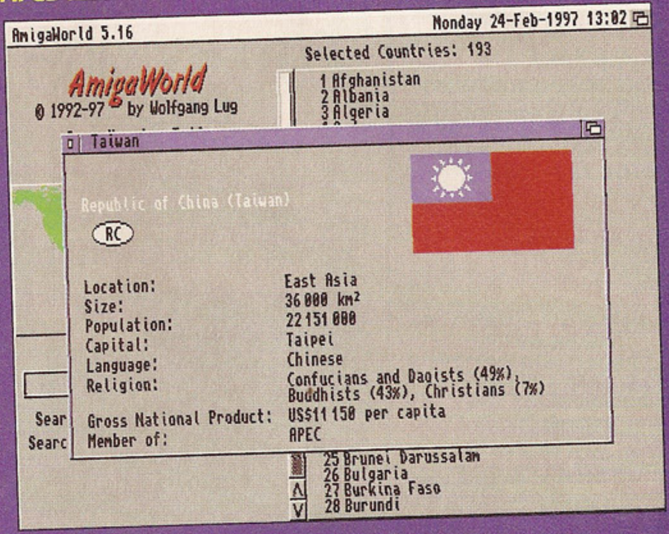
Demon Counters

AFCD12:-Seriously_Amiga-/Shareware/Comms/DemonCounters/

No, it's not some fiendish adding tool, but a handy guide for Demon account owners who aren't sure what their web counter will look like. Alex has set up a blank page with a web counter and then run through the different designs, grabbing the screen every time to make a picture showing all the examples. It would be nice if Alex gave more details on how to alter the thickness of the border and so on, but it is still a very handy thing.

AMIGA WORLD

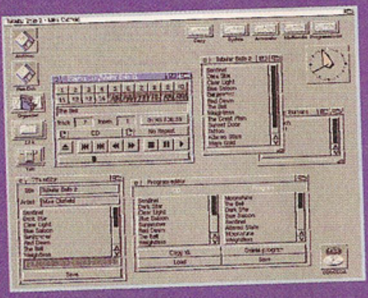
AFCD12:/Shareware/Misc/AmigaWorld/



No, not the name of a defunct American Amiga magazine, but a really rather splendid Shareware atlas. Ideal for looking up information on countries around the world. This program tells you what the flag looks like, population details, GNP and more. If you register you can get rid of the annoying reminder message.

ACDPLAY

AFCD12:-Seriously_Amiga-/Shareware/CD-ROM/acdplay/



A lot of people responding to our CD survey seem to complain that we put the same software on our disc every month, but this simply isn't true. Take *ACDPlay* for example. This excellent CD player program has been on our CD at least three times, but we've never put the same version on twice. As software improves and new versions get released, you can bet we want to keep you as up-to-date as possible.



Voyager Next Generation

AFCD12:-Seriously_Amiga-/Shareware/Comms/V-NG-Prelease2/



Frames come to Amiga browsers with this release of *Voyager*. You can now access sites that rely on frames for their layout, but you won't be able to do it for long with this release since it is designed to be unusable after about a month. We'll keep bringing you updates as we get them. By the way, the previous prerelease is also in the comms drawer in case you can't get prerelease 2 working.

Star Wars models

AFCD12:-Seriously_Amiga-/Shareware/Graphics/3D/SW-TieBomb/
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It is perhaps unsurprising that, given the enormous resurgence in interest in *Star Wars*, we should now get new models of the ships that helped make the film so famous. These four ships have been modelled to scale for *Imagine* from plans in *The Essential Guide to Vehicles and Vessels* by Bill Smith.

Cartoon Studio

AFCD12:-Seriously_Amiga-/Shareware/Graphics/CartoonStudio/

Our Reader Submission winner from *AFCD4* is back with a new version of his superb program, this time as shareware. This is really worth a look if you've been dying to add sound to your animations.

WBStartup+

AFCD12:-Seriously_Amiga-/Shareware/Workbench/WBStartup+V2.8/

WBStartup+ is a great little program that makes Workbench somewhat easier to control when it comes to loading commodities. As you know, commodities all reside in your WBStartup drawer, but until *WBStartup+* came along the only way to disable some or all of them was to remove them from the drawer or rename WBStartup. Now you can specify whether or not they load and in what order, through a handy prefs program, and determine whether or not individual commodities will be loaded at boot time. *WBStartup+* also gives you a nice progress bar indicating how your commodities are loading.

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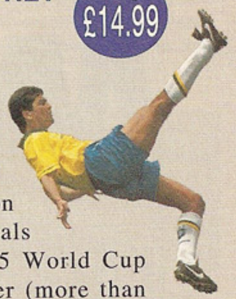
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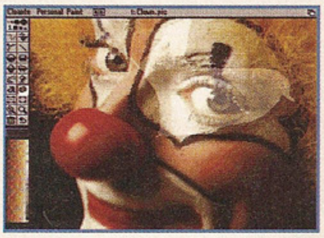
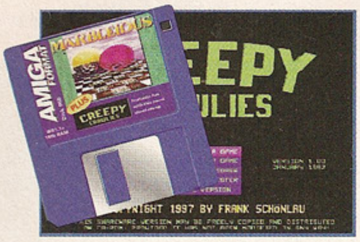
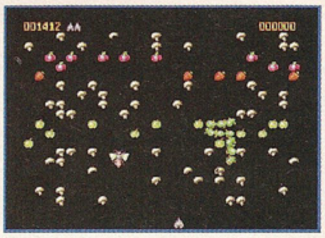
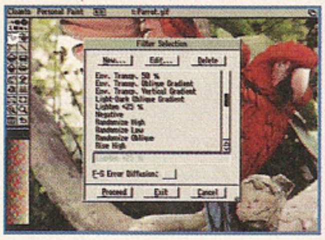
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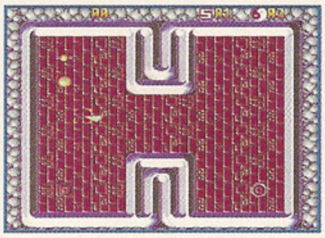
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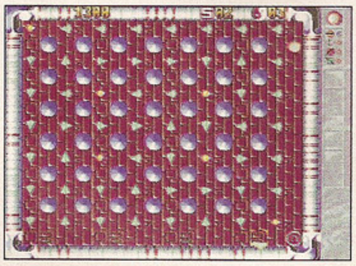






Discover how to get the most out of our exciting giveaway in our guide to using the excellent *Personal Paint 6.4*.

Guide your marbles to safety in *Marblelous* and then try shooting the fruit in an addictive *Centipede* clone.

Marblelous

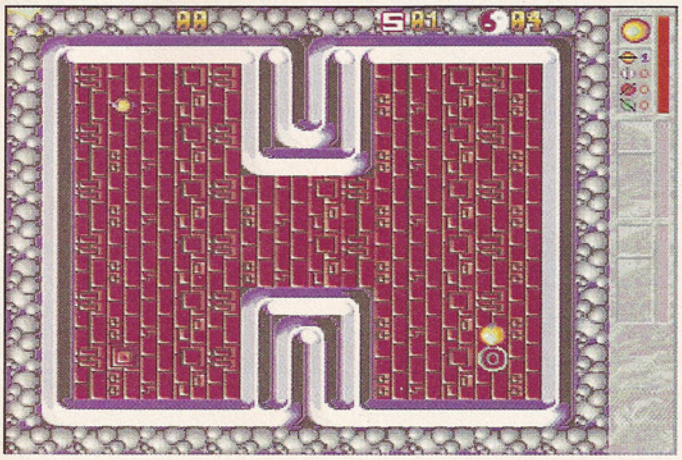


Marblelous is the first of three new games that Epic Marketing intend to release for the Amiga over the next few months. It's a fairly challenging puzzle game that will require a great deal of thought to complete.

In order to play this demo, you will need to have a spare floppy disk. Boot the game Coverdisk and when prompted insert your spare disk. The *Marblelous* demo will be unpacked onto it and you can then boot the new disk. The game is mouse controlled, so when the title screen appears, press the left button to load the game.



The game has simple controls. The idea is to guide the rolling ball to the objective. The ball cannot be controlled directly and it will always continue to roll. What you can do though, is set a control in its path which will affect the direction the ball is rolling in when it passes over it.



It looks quite straightforward here but just wait for level two!

If you click in a spot, a "No Entry" sign will be dropped, which pauses the ball's movements for a few seconds. Be warned though, when the ball starts to roll again it will proceed on its original course and you cannot just put another "No Entry" immediately in front of it because it will have no effect.

On the right of the screen is a red bar which shows how long you have left for pausing the ball. To release the ball, change the "No Entry" into an arrow. You only have a certain amount of time for holding the ball per level.

To change the trajectory of the ball, you can click the left

CREEPY CRAWLIES

You've got your free software and your exciting new game demos. Now find out how to get the most out of them.

CREEPY CRAWLIES

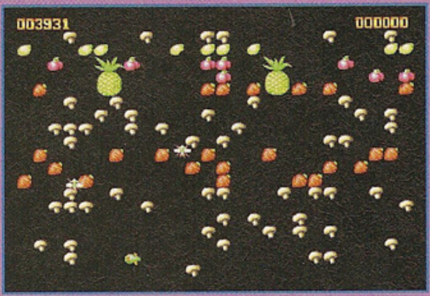
When I was a nipper, a cross channel ferry introduced me to a weird shoot-em-up called *Centipede*. All my holiday money had gone before we touched foreign soil, which desperately impressed my parents. Well, they can relax, because now there is a complete re-launch of the game from Shareware programmer Frank Schînlau called *Creepy Crawlies*. The first ten levels come as a taster and the complete game only costs £5! Brilliant.

The game has apparently taken years to create and as soon as you see it, you'll understand why. The graphics are lush and the gameplay addictive.

For those who don't remember the original, the premise is simple. You play a small space ship on the bottom of the screen that can also move about a third of the way up, as well as left to right. With unlimited ammo, the idea is to destroy all the objects on screen.

As in the original, the game takes place in a garden and the main opponent is a *Centipede*, made up a several segments. Should you shoot a middle segment the creature will split in two and both sets continue to work their way down the screen towards you. Any segment shot will change into a mushroom.

The garden is littered with plants, which are harmless to touch, but which stop you from manoeuvring and provide shelter for the baddies. Shoot as many mushrooms and pieces of fruit as you can, but note that there is no way you can completely clear the screen. Instead concentrate on the baddies. In order to complete a level, you need to clear out the centipede and all other bugs.



Destroy the pineapples to get to the next level.

The first type of additional enemy is a general bug, which flies down the screen littering fruit all over. Shoot it as soon as you can. As with all the other baddies, contact with it is deadly. There is also a wasp, which comes in four colours and hovers around the bottom of the screen. This wasp will come and go and must be destroyed in order to reach the next level.

Certain levels contain pineapples. These harbour fruit flies that continue to descend, protecting the pineapple. To complete the level the pineapple must be completely destroyed, but be warned that it will re-grow with more fruit flies protecting it if it is not completely removed.

A giant bug, which comes in five colours can shoot at you and the blue one at the top is almost invincible. The other thing to remember is that they can all fire at you and all recover from your hits. A harmless extra is the Snail, but you can shoot it anyway.

It seems like there are loads of things out there to get you but there are also some friendly faces to help you out. The flower object glows orange and if you can hit it in this time, you will get better fire power. There are four intensities – single, double, triple and superior.

If you crash, you will lose any power up. Destroying the vial will get you a speed-up and shooting the present box will release collectable stars. These stars give you a protective shield, with more collected giving you a stronger shield.

Finally, beware of two particularly evil enemies: the ladybug will dive bomb you and is even intelligent enough to try and avoid your fire and the spider lays eggs across the screen. These hatch, bringing a dangerous web with them. Fully grown spiders are hard to kill, but you must destroy all of them, and the web, to proceed.

More details of the game and your enemies can be found in the game's readme. To load it, simply open the Coverdisk up in Workbench and double-click on the icon. The full game can be bought by obtaining a registration code from the author for just £5. Contact:
Frank Schînlau
Kapuzinerstr. 40
58149 MÅnster
Germany or
drhank@uni-muenster.de.

mouse button in its path and hold it down, then drag the mouse in the direction you want to send the ball and an arrow will appear. When the ball hits the arrow, it will turn in that direction.

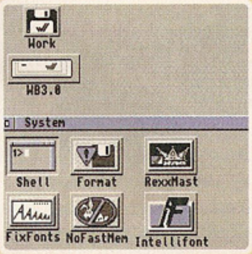
At the beginning of each level you're given an objective – something to retrieve before going to the exit. Although this sounds easy, you should note that arrows beneath them. This means you could set up a correct route, which turns out to be useless when an arrow beneath is uncovered – forcing you to rethink very quickly. You have four lives, so if you do get caught out, there's a chance to succeed next time.

If this all sounds terribly easy, wait until you get onto the second the first was just to make sure you understood the controls. You just have to find the sequence in the second level but level three has you working hard. You'd be mistaken for thinking this game won't have your heart racing – after two minutes of frantic brain strain, you'll change your mind.

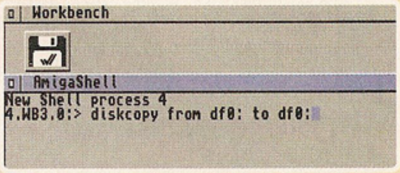
The full game is available for £7.99 from Epic Marketing on

BACKING UP YOUR COVERDISK

Copying your Coverdisk is really very simple. Just follow the stages below...

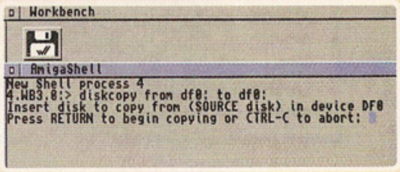


1 Boot up with your Workbench disk and find the Shell icon, in your system drawer. Double-click on this to go into the Shell.

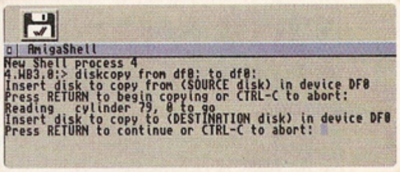


2 Type in the following line (with a *zero*, not the letter O), taking care to put the spaces in the correct places:

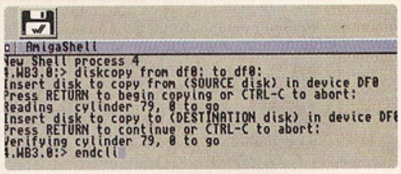
DISKCOPY FROM DF0: TO DF0:



3 When asked for the Source disk, insert your write-protected Coverdisk and press Return. All of the info on this disk will then be copied from the disk into memory.



4 Once your Amiga has read the info, it will ask for the Destination disk. Insert it and press Return. All information on this disk will be destroyed.



5 On an unexpanded machine, the Amiga may ask for the source disk again, because it copies in chunks. Finally, type *endcli* to close down the Shell.

DISK NOT WORKING?

We take every care to test the Coverdisk software, but Future Publishing cannot accept any responsibility for any damage occurring during its use. If your disk is faulty, send it back, with 2x26p stamps and an SAE to:

Amiga Format (insert name of disk)
TIB PLC • TIB House
11 Edward Street
Bradford • BD4 7BH

If there is a manufacturing error the stamps will be returned with a replacement disk.

Personal Paint 6.4

Worth £50

This month, as promised, we bring you the complete commercial release of *Personal Paint 6.4*. Dave Taylor introduces this exclusive Coverdisk coup.



Personal Paint has already been hailed the best paint package available for the Amiga. But that has not prevented creators Cloanto, from continuing to refine and advance their program. Version 6.4 was the release packaged with the Amiga Magic bundle but this special Coverdisk version only dates back to last September and comes with several advancements – most notably in the anim-brush support.

Our extensive feature which begins on page 19, will lead you through the ins and outs of creating a picture so here we are going to concentrate on getting the program running and familiarising yourself with the interface and menus.

TOOLBAR CONTROLS

When the program loads up you will see the usual toolbar down the left hand side. (For an annotated diagram see page 20.) This contains the main options for freehand painting and editing.

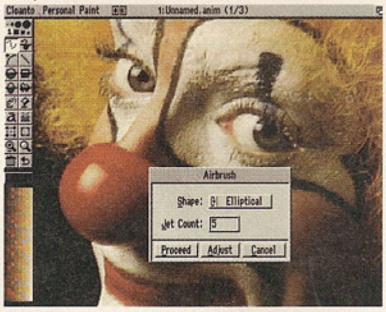
The brushes, which come as circles and squares by default, can be found at the top of the toolbar. There are several preset sizes for both and these can be chosen by left clicking on them. However, if you want a different sized or shaped brush, you can right click on either sort and then resize the brush on the screen by holding and dragging out the left mouse button. This way you can create ovals and rectangles of any size. This click and hold won't affect the picture underneath when re-sizing.

Underneath the brushes you will find the different draw types. The obvious single click point can be found on the top left with the line drawing tool on its right. The single line can also make filled in irregular shapes. Click on the icon until it becomes a filled shape. You will now have a single pixel brush which you can draw a continuous line with by clicking and holding the left button. When you release the button the line will be connected up with the start point and the shape will be filled with the brush colour.

THE LINE TOOLS

The next line contains the curve and straight line tools. The curve line is more advanced than in other packages and uses the bezier curve type. You simply click, drag out a line and then release. You'll get a start, end point and curve point and you can grab any of the three points and move them out until you have the curve that you need. Then just click the right mouse button to accept the line.

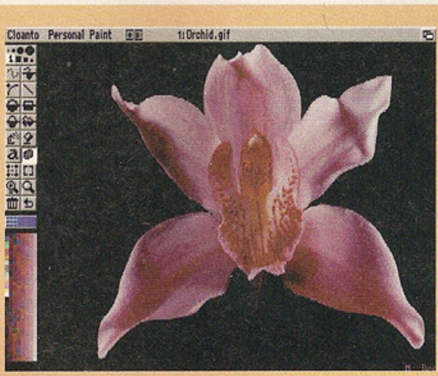
The next four icons contain the shapes. You can create empty or filled shapes and there are circle, square, oval and irregular shapes to choose



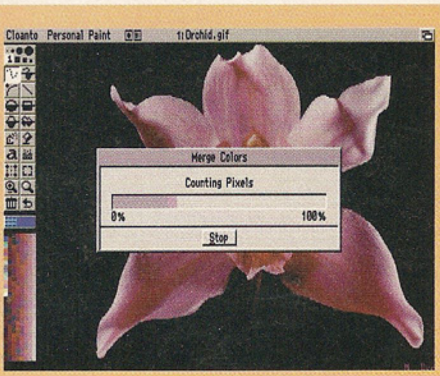
The toolbar contains lots of tools which have parameters. These can be selected from the requestors, opened using a right click.

COLOUR CORRECTION

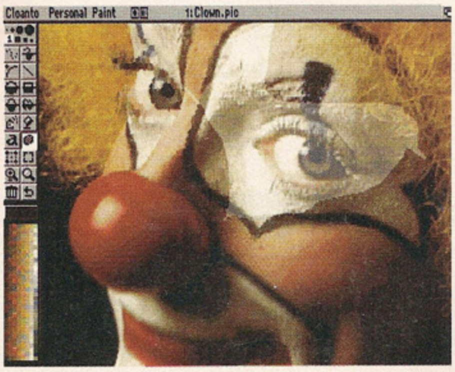
One of Personal Paint's best features is its ability to deal with colours. But one problem with using the colour fonts generated by the *Font Machine* program, is the fact that the palettes of the font and picture are unlikely to match. But because we're good like that – here's how to solve the problem. This method will not only work with the colour fonts, but also for merging any two pictures with different palettes. All in all then it's a very useful trick to know.



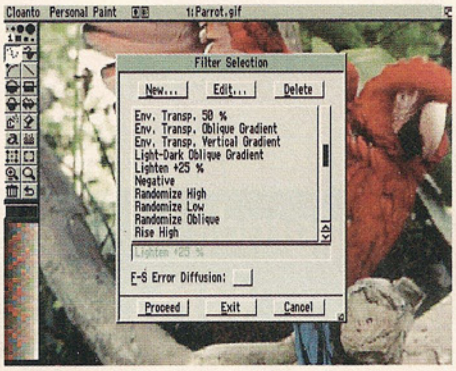
1 **Load up your picture and get the correct number of colours and image size, using the File/Image Format menu item. Swap to a second page by using the File/Environment menu item. Now load up the font, ensuring you have enough colours for it and that the image format is the same as the original image. Type in the correct text and pick it up as a brush.**



2 **Swap back to the original image and you will see that you have the same brush – although the colours will be wrong. Select the Colour/Merge menu item and you will get a requestor. You want to select the current image and the brush number one before clicking on OK. The program will now merge the two palettes.**



A variety of filters have been added using the freehand tool, including watercolour and blur.



There are nearly 50 preset filters for you to choose from in this version of PPaint.

from. The irregular shape is controlled by drawing each line and then clicking where a corner is needed – the next line will start from the corner and you can end it all by either selecting the tool again or just by clicking back at the start point so that all the lines join up.

The next line contains the airbrush tool which sprays sets of the brush across an area. If you want to change the shape or intensity of the nozzle, just right click on the airbrush tool and select the parameters from the requestor.

The fill tool next to the airbrush also has a set of options accessible with a right click. Normally, you would simply be able to get a filled solid with a single colour, but using this tool you can create user-defined gradients between the two active colours (those are the different colours available when using the left and right buttons).

The text icon allows you to set text on top of your picture. You can use any of the different fonts that you already have. If you want to use special effect, colour fonts, then this would be a great opportunity to dig out your copy of *Font Machine*, the program we carried on *AF94*. This enables you to transform your standard Amiga fonts into exceptional colour fonts with bitmap fills. Should you use the colour fonts, then you may need to import the palette information from the font, by selecting the Palette/From Font menu item from the Colour menu.

SPECIAL EFFECTS

The next icon looks like a chess board, but contains the most powerful set of tools on the toolbar and the ones that you would not normally see in a paint package. This is the Filter icon. Right click on it and you will get the selection requestor. There are about 50 preset filters including blur, water colour, tint, texture, dither, emboss and you can edit any of these or define new ones of your own. When the filter is selected you can choose the area you want to apply it to by clicking and dragging out a box with the left button. If you click on the icon with the left button, you can toggle between square and freehand editing for the selection of areas.

CHOOSE HOW YOU EDIT

The final six icons enable you to set certain editing choices. The first toggles between a freehand and grid selection. The grid means that you can make sure you are drawing or selecting areas of the same size (as you should expect by now, a right click on the icon allows you to set the grid size). Next to that is the editing tool for picking up part of the picture as a brush.

As with other programs, the background colour is considered transparent when you pick up brushes so you can easily choose which parts will work as masks. The next line has zoom in and out icons for more detailed work. Finally there is the clear button which allows you to ditch the whole picture and the undo button which enables you to move back a step at a time. Unlike other programs, there is a history in the Undo feature so you can move back further than just the last action.

Right at the bottom of the toolbar you'll find the palette requestor. You can have two active colours selected from here, one using the left button and one in the right – the choices are shown just above the palette.

Don't forget – if you really enjoy using *Personal Paint* you can upgrade to the latest version 7.0 at a special price. Just turn to page 112 to find out the details of our exclusive reader offer.

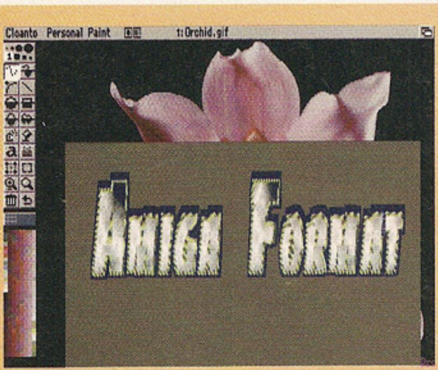
SETTING UP PERSONAL PAINT

The program can be loaded directly from the Coverdisk. Simply load up Workbench and then open the disk and double-click on the program icon. If you want to install the program onto a hard drive, simply copy the entire disk into a folder by dragging the icon into a drawer on Workbench.

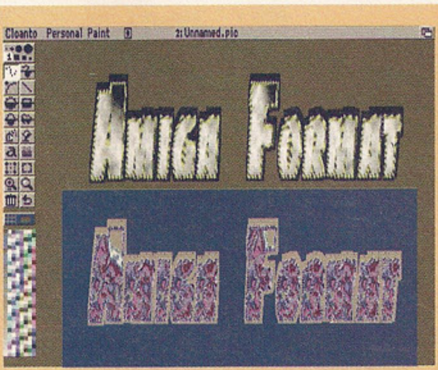
You may want to set up an assign in your user-startup which will help *PPaint* find the fonts directory. The program will function without the assign, but creating one stops it from failing to find its default drawers, which would require you to change to them manually. Open up the file s:user-startup and add the line "assign PPaint: dh1:ppaint" where dh1:ppaint is the destination you copied the program to – it may be work:graphics, etc.

The program has been crunched in order to fit it onto a single floppy. This does not affect its functionality, as it is a packed executable, but you may want to unpack it so it loads slightly faster. To do this, open a CLI and type cd ppaint <return>, deplode ppaint <return>.

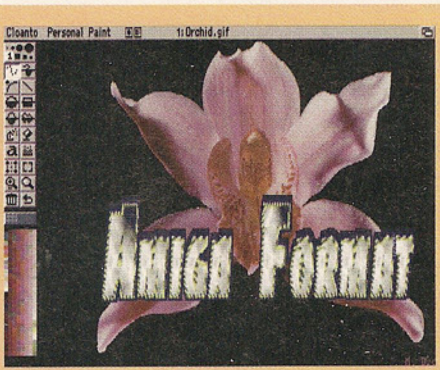
This version of PPaint is not restricted to English only. If you are one of our overseas readers, then your native language may be available to you. Simply select it from the Settings/Language menu item and the menus and requestors will now be displayed in your language.



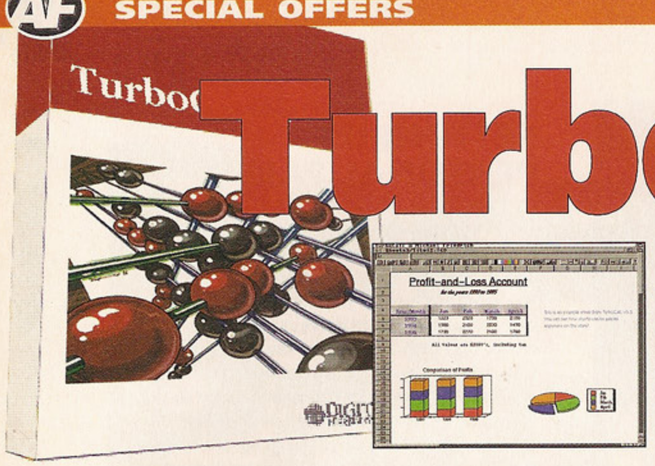
3 You will however find that the outside of the brush is no longer transparent (if you had selected it as such in the first place when you picked up the brush.



4 Swap back to the text screen and paste down the text – you'll see that the font colours now look wrong. Reselect the new background colour for the brush by left clicking in the background colour on the toolbar. Then click on the colour you want to select on the picture and that colour will become the back ground.



5 You can now pick the text back up and swap to the original picture. The brush should now have the correct transparency and you can paste it in.



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Contributors
John Kennedy, Darren Irvine, Simon Goodwin, Dave Taylor, Dave Cusick, Graeme Sandiford, Damien Noonan, Chris Stocker, Jonathon Duke

Assistant Publisher – Alison Morton
Publishing Director – Jane Ingham
Public Relations – Liz Ramsay and Jennifer Press 0171 331 3920
Overseas Licences – Mark Williams
Tel: 0171 331 3920
Fax: 0171 447 3499
mwilliams@pne.co.uk

Group ad manager – Simon Moss
mossy@futurenet.co.uk
Sales Executive – Jenny White
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Prod Manager – Richard Gingell
Production Coordinator – Zoe Rogers
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Colour scanning & Imagesetting
Jon Moore, Chris Stocker, Mark Gover, Simon Windsor, Jason Titley, Oliver Gibbs
Colour Originators – Phoenix Repro
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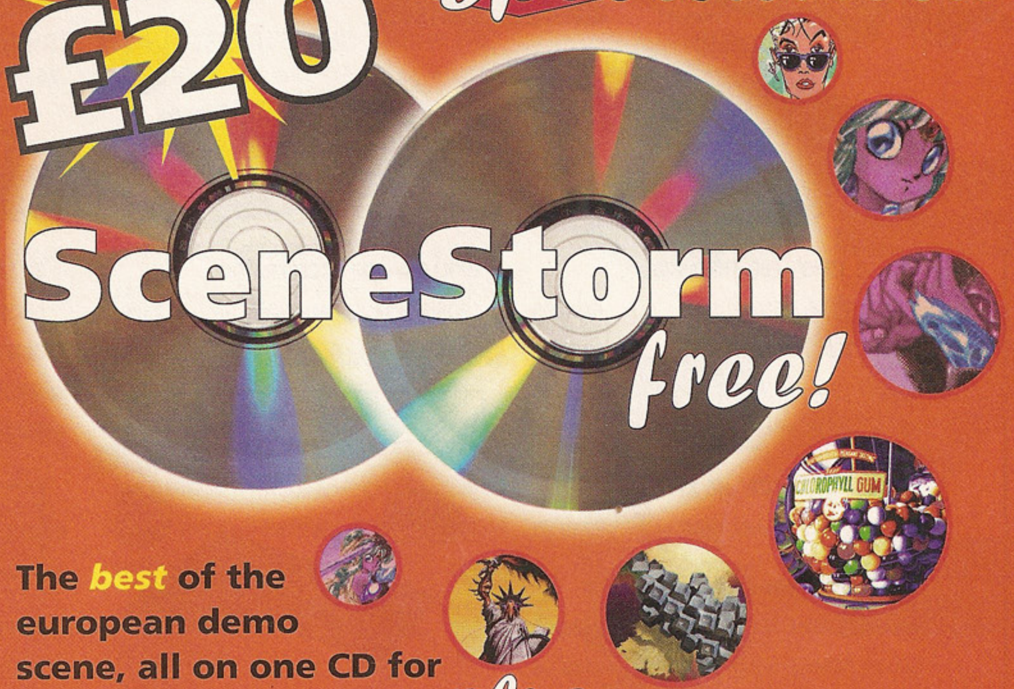
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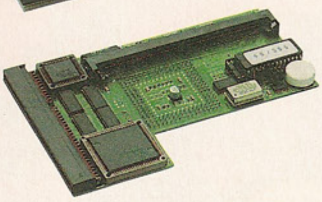
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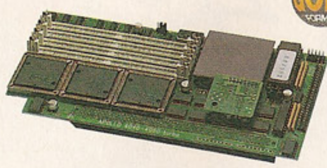
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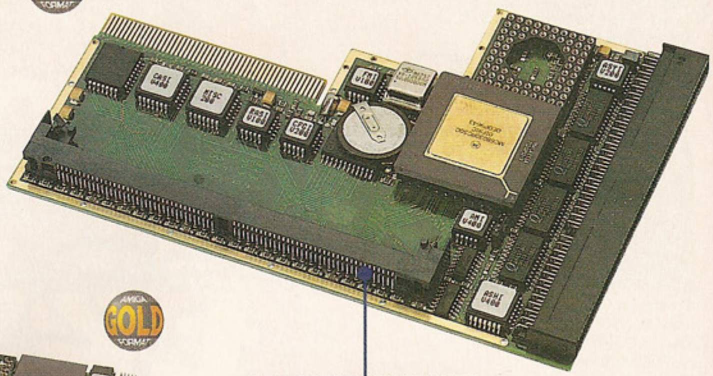
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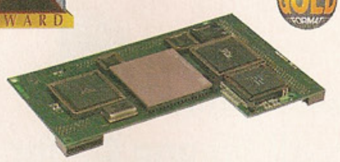
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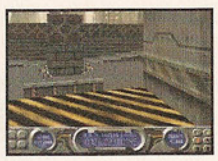
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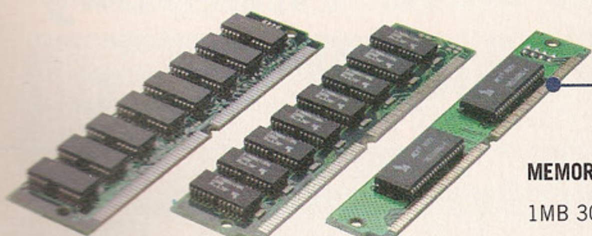
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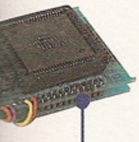
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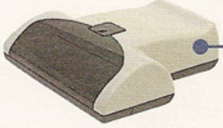
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